Imagine COMMUNICATIONS

Installation and Configuration Manual

Nexio® IconMaster™ Master Control Switcher

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Delivering the Moment

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Preface

Manual Information

Purpose

This manual details the features, installation procedures, configuration procedures, and specifications of the Nexio® IconMaster™ master control switcher.

Audience

This manual is written for engineers, technicians, and operators responsible for the installation and setup of the IconMaster master control switcher.

Revision History

Table 2-1 Revision History

Edition	Software Contents	Date
Preliminary 1	■ Content Editor 1.0.0 ■ LogoCreator 3.1.1 ■ IconMaster GUI 1.0.0 ■ IconSet Configuration Utility 1.0.0	December 2005
Preliminary 2, for use with System Software Release 1.0.1	■ Content Editor 1.0.0 ■ LogoCreator 3.1.1 ■ IconLogo SoftPanel 1.0.0 ■ IconSet Configuration Utility 1.0.0	February 2006
Edition A, for use with System Software Release 1.1	■ Content Editor 1.0.0 ■ LogoCreator 3.1.1 ■ IconLogo SoftPanel 1.0.7 ■ IconMaster Configuration Utility 1.0.0.48	March 2006
Edition B, for use with System Software Release 1.2	■ Content Editor 1.0.0 ■ LogoCreator 3.1.1 ■ IconLogo SoftPanel 1.0.7 ■ IconMaster Configuration Utility 1.0.0.62	June 2006

Table 2-1 Revision History *(Continued)*

Edition	Software Contents	Date
Edition C, for use with System Software Release 1.4	■ Content Editor 1.0.0 ■ LogoCreator 3.1.1 ■ IconLogo SoftPanel 1.0.7 ■ IconMaster Configuration Utility 1.0.0.70	September 2006
Edition D, for use with System Software Release 1.5	■ Content Editor 1.0.0 ■ LogoCreator 3.1.1 ■ IconLogo SoftPanel 1.0.7 ■ IconMaster Configuration Utility 1.5.0.3	December 2006
Edition E, for use with System Software Release 2.0	■ Content Editor 1.0 ■ LogoCreator 4.0 ■ IconLogo SoftPanel 1.0 ■ IconMaster Configuration Utility 2.0	May 2007
Edition F, for use with System Software Release 2.0.1	■ Content Editor 1.0 ■ LogoCreator 4.0 ■ IconLogo SoftPanel 1.0 ■ IconMaster Configuration Utility 2.0.1	June 2007
Edition G, for use with System Software Release 2.1	■ Content Editor 1.1 ■ LogoCreator 4.0 ■ IconLogo SoftPanel 1.0 ■ IconMaster Configuration Utility 2.1	July 2007
Edition H, for use with System Software Release 2.20	■ Content Editor 1.1 ■ LogoCreator 4.1 ■ IconLogo SoftPanel 1.0.7 ■ IconMaster Configuration Utility 2.2	March 2008
Edition I, for use with System Software Release 3.0	■ Content Editor 1.1 ■ LogoCreator 4.1 ■ IconLogo SoftPanel 1.0.7 ■ IconMaster Configuration Utility 3.0	June 2008
Edition J, for use with System Software Release 3.1	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.1	January 2009
Edition K, for use with System Software Release 3.2	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.2	February 2010
Edition L, for use with System Software Release 3.2.1	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.2.1	May 2010

Table 2-1 Revision History *(Continued)*

Edition	Software Contents	Date
Edition M, for use with System Software Release 3.2.x	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.2.x	May 2010
Edition N, for use with System Software Release 3.3	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.3	February 2011
Edition O, for use with System Software Release 3.4	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.4	April 2011
Edition P, for use with System Software Release 3.5	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.5	October 2012
Edition Q, for use with System Software release 3.6	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.6	June 2013
Edition R, for use with System Software release 3.7	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.7	July 2013
Software release version 3.8	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.8	June 2014
Software release version 3.9	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.9	June 2014
Software release version 3.9 (updated)	■ Content Editor 1.3.1 ■ LogoCreator 4.2 ■ IconLogo SoftPanel 1.09 ■ IconMaster Configuration Utility 3.9	July 2015

Writing Conventions

To enhance your understanding, the authors of this manual have adhered to the following text conventions:

Table 2-2 Writing Conventions

Term or Convention	Description
Bold	Indicates dialog boxes, property sheets, fields, buttons, check boxes, list boxes, combo boxes, menus, submenus, windows, lists, and selection names
Italics	Indicates E-mail addresses, the names of books or publications, and the first instances of new terms and specialized words that need emphasis
CAPS	Indicates a specific key on the keyboard, such as ENTER, TAB, CTRL, ALT, or DELETE
Code	Indicates variables or command-line entries, such as a DOS entry or something you type into a field
>	Indicates the direction of navigation through a hierarchy of menus and windows
hyperlink	Indicates a jump to another location within the electronic document or elsewhere
Internet address	Indicates a jump to a Web site or URL
	Indicates important information that helps to avoid and troubleshoot problems

Obtaining Documents

Product support documents can be viewed or downloaded from our website. Alternatively, contact your Customer Service representative to request a document.

Unpacking/Shipping Information

Unpacking a Product

This product was carefully inspected, tested, and calibrated before shipment to ensure years of stable and trouble-free service.

1. Check equipment for any visible damage that may have occurred during transit.
2. Confirm that you have received all items listed on the packing list.
3. Contact your dealer if any item on the packing list is missing.
4. Contact the carrier if any item is damaged.
5. Remove all packaging material from the product and its associated components before you install the unit.

   Keep at least one set of original packaging, in the event that you need to return a product for servicing.

Product Servicing

IconMaster systems are not designed for field servicing. Except for certain designated options as described in this manual, all hardware upgrades, modifications, or repairs require you to return the product to the Customer Service center.

Returning a Product

In the unlikely event that your product fails to operate properly, please contact Customer Service to obtain a Return Authorization (RA) number, then send the unit back for servicing.

Keep at least one set of original packaging in the event that a product needs to be returned for service. If the original package is not available, you can supply your own packaging as long as it meets the following criteria:

- The packaging must be able to withstand the product's weight.
- The product must be held rigid within the packaging.
- There must be at least 2 in. (5 cm) of space between the product and the container.
- The corners of the product must be protected.

Ship products back to us for servicing prepaid and, if possible, in the original packaging material. If the product is still within the warranty period, we will return the product prepaid after servicing.

Safety

Carefully review all safety precautions to avoid injury and prevent damage to this product or any products connected to it. If this product is rack-mountable, it should be mounted in an appropriate rack using the rack-mounting positions and rear support guides provided. It is recommended that each frame be connected to a separate electrical circuit for protection against circuit overloading. If this product relies on forced air cooling, it is recommended that all obstructions to the air flow be removed prior to mounting the frame in the rack.

If this product has a provision for external earth grounding, it is recommended that the frame be grounded to earth via the protective earth ground on the rear panel.

IMPORTANT! Only qualified personnel should perform service procedures.

Safety Terms and Symbols in this Manual

WARNING

Statements identifying conditions or practices that may result in personal injury or loss of life. High voltage is present.

CAUTION

Statements identifying conditions or practices that can result in damage to the equipment or other property.

Terms and Symbols on the Product

DANGER: High voltage; indicates a personal injury hazard immediately accessible as one reads the marking.

WARNING: Indicates a personal injury hazard not immediately accessible as one reads the marking.

CAUTION: Indicates a hazard to property including the product or to take Attention and refer to the manual.

Protective ground (earth) terminal.

Fuse. Replace with same type and rating of fuse.

Observe precautions for handling electrostatic sensitive devices.

Embedded Software License Agreement

The software embedded in this product incorporates the VxWorks Run-Time Module, and the following paragraphs are applicable. You are prohibited from:

a copying the Run-Time Module, except for archive purposes consistent with your archive procedures;

b transferring the Run-Time Module to a third party apart from the product containing the Run-Time Module;

c modifying, decompiling, disassembling, reverse engineering or otherwise attempting to derive the source code of the Run-Time Module;

d exporting the Run-Time Module or underlying technology in contravention of applicable U.S. and foreign export laws and regulations; and

e using the Run-Time Module other than in connection with operation of the product in which it is embedded.

Any further distribution of the Run-Time Module is subject to the same restrictions set forth herein. Wind River Systems, Inc. and its licensors are third party beneficiaries of the End User License Agreement and the provisions related to the Run-Time Module are made expressly for the benefit of, and are enforceable by, Wind River Systems, Inc. and its licensors.

The laws of the Province of Ontario shall govern this Agreement. Updated January, 2005.

1 Introduction

Overview

The IconMaster modular master control switcher provides, in a modular format, the ability to combine critical master control functions with multi-integrated branding. IconMaster is based on our industry-leading NEO modular platform. It is the only control that can be combined with other advanced applications to create a complete, self-contained channel release system.

This manual is part of a two-part set. Hardware installation and configuration procedures are provided in one manual, and control panel operation and configuration procedures are provided in the other manual. This manual provides detailed information on installing and configuring the hardware components in your IconMaster system. A complete setup will include

- Installing the IconMaster control panel
- Installing optional NEO modules
- Mounting a NEO frame in a rack
- Configuring NEO modules
- Connecting internal or external routers
- Connecting external Ethernet to serial and GPI interface devices
- Configuring control panel components (this information is provided in a separate manual)
- Control panel operations (this information is provided in a separate manual)
- Optional software installation and operation (this information is provided in a separate manual)

Each of these topics is covered in the IconMaster manual set. In some cases, however, you will be referred to another manual for more detailed information.

Product Description

Figure 1-1 IconMaster RCP Control Panel (with Optional Audio Control Panel)

The IconMaster ICONM-RCP features a 12-input desk-mount or rack-mount control panel with LED buttons for bus selection and transitions as well as fully-configurable LCD buttons. An "intelligent" audio control panel, and touch-screen configuration and control are available as options.

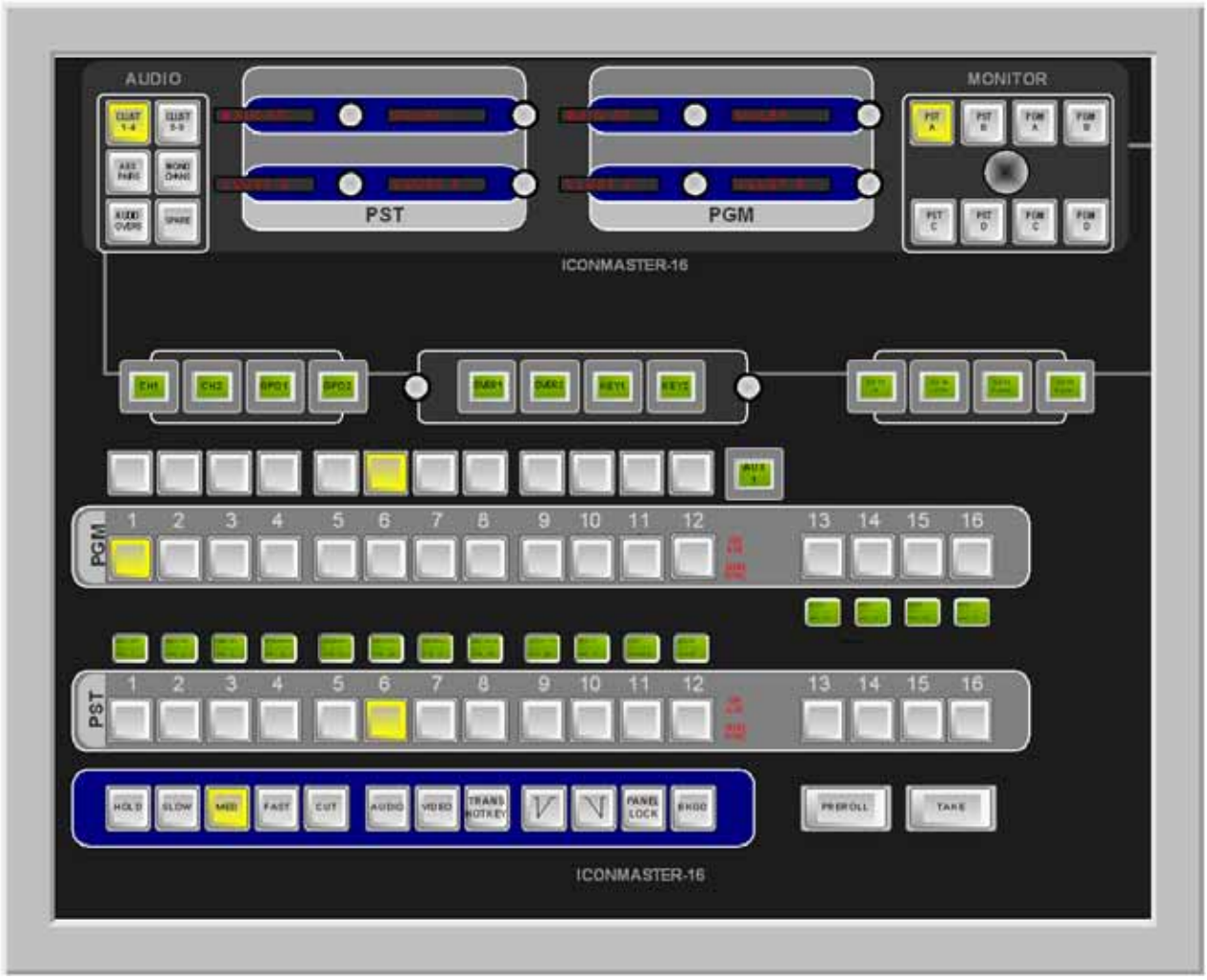


Figure 1-2 IconMaster ICONM-RCP16 Control Panel (with Optional Audio Control Panel)

The IconMaster ICONM-RCP16 features a 16-input desk-mount or rack-mount control panel with LED buttons for bus selection and transitions as well as fully-configurable LCD buttons. An "intelligent" audio control panel, and touch-screen configuration and control are available as options.

IconMaster is both SD and HD-ready. You can migrate from an SD master control to an HD master control via a straightforward configuration setting.

With IconMaster, flexibility is a core feature. With assignable, two-channel, squeeze back position, you have the power to choose. Internal or external routing is offered with 12 or 22 inputs, and with or without emergency bypass routing.

IconMaster features four internal and two external key layers for branding. Features supported include static and animated logos, analog and digital clock capability, crawls, EAS (Emergency Alert System) and Amber Alert. The IconMaster is also available without internal logo branding layers. This product, IconMaster Lite, has two external key and fill inputs, and two Audio Over inputs. (The MGI-3903 IconLogo branding module is available as an upgrade for IconMaster Lite.)

Product Features

Main Features

- SD or HD configurable with no hardware changes
- Upgrade from IconLogo branding to IconMaster Master Control
- Assignable (two-channel) squeezeback position option
- Desk- or rack-mount control panel
- Industry-standard buttons with LEDs for bus selection and transitions
- User configurable LCD buttons
- Fader bar option
- Multi-channel modular design
- Two NEO-slot solution, or three slots with addition of audio monitoring option (embedded audio with external routing)
- Up to six channels in 3RU
- Operate multiple channels from single panel
- Full next-event preview
- 6 keyers
  - 2 external, key/fill
  - 4 internal branding keys[1]
- Static and animated logos
- Analog and digital clocks
- Text crawls and EAS/Amber Alert option
- Flexible audio options
  - 8 channels discrete AES audio
  - 16 channels embedded audio
  - 2 audio overs with dedicated EAS inputs
  - Passes non-PCM audio such as Dolby® -E and Dolby® AC-3 on selected channels while processing PCM channels
  - Full-channel audio assignment and processing
  - Internal audio logo playback by attaching .WAV files to a logo
- Dynamic assignable audio profiles
- Full support for CCS-P (i.e., Navigator and NUCLEUS) control
- Machine control
- Router control over Ethernet or serial RS-232/422
- Drive under monitor displays using serial tally protocol
- Aux bus support of multi-level sources and destinations
- On-screen logo positioning
- Internal logo memory storage expanded to 4 Gb (via the MGI-3903)
- Primary/secondary assignment and control of up to eight IconMaster channels for slaved operation
- Timer/clock on RCP
- RCP available as SNTP time server from clock module reference
- Assignable names to programmable Quick Select macro functions, and to GPO events

[1] Not available on IconMaster Lite models.

Optional Features

- Fader bar
- Intelligent audio control panel
- Internal or external routing with 12, 16, or 22 inputs
- External routing with or without emergency backup routing
- Relay bypass with dedicated bypass input
- 2-channel video squeezeback option
- Text crawl with dynamic data insertion
- RSS and ODBC connectivity
- EAS and Amber Alert (Emergency Alert System) insertion
- Fully- featured "soft" control panel
- Direct control of multiviewers
- Up to 66 GPI inputs and up to 61 GPI outputs via the use of an optional Ethernet to serial and GPI interface
- Support for any multiviewer on the market, with special support for HView SX Hybrid and Predator Multiviewers

IconMaster Components

A complete IconMaster setup consists of main components, optional items, NEO modules, and routers.

Main Components

Hardware Components

- A main control panel with one power supply (For redundant power supply operation, two power supply units may be used)
- A 3RU NEO frame with redundant power supplies
- An MKE-3901 mixer/keyer module
- An MGI-390x IconLogo graphics module

Software Components

- Icon Series Soft Tools CD, which includes
  - IconMaster Configuration Utility (ICU)
  - Content Editor
  - LogoCreator
  - IconLogo Soft Panel

Optional Items

- An additional power supply (for redundant power supply operation)
- An audio control panel
- An MKE-3901-FX effects optional submodule (for MKE-3901 module)
- An MKA-3901 balanced audio module
- An ICONM-BO-V video breakout module

- A balanced (ICONM-BO-VAB) or a coaxial (ICONM-BO-VAC) audio/video breakout module
- NEO 3901RES-E resource module for CCS-P control and display
- An internal router, such as NEO NSM routers
- An external router, such as Platinum, Integrator, or Panacea
- A general purpose interface box, such as a JLCooper Electronics eBOX™ Quad Serial to Ethernet Interface[1]

System Setup

The types of components and options you purchased will determine the complexity of your installation and configuration. **Chapter 2, *Installation*** includes the sequences of events for the most common IconMaster installation situations. Please see page 9 for a listing of these scenarios.

About this Manual

This IconMaster manual involves hardware installation and configuration. Control panel operation, as well as icon software installation, configuration, and operation, are covered in a separate manual.

[1] eBOX is a trademark of JLCooper Electronics.

2 Installation

Overview

IconMaster is a cost-effective modular master control and branding solution beyond the conventional, offering the ability to combine critical master control functions with multi-layer integrated branding, all in a modular card format.

The IconMaster master control switcher is controlled by a control panel, automation, or general purpose inputs. This chapter is designed to help install and set up the IconMaster frame modules, control panel, and all relevant interconnections between the frame and panel.

Pre-Installation Information

IconMaster Main Components

- Main control panel with one power supply
- MKE-3901 mixer/keyer module
- MGI-3903 IconLogo graphics module
- IconMaster Soft Tools CD, including IconMaster configuration utility

  The IconMaster configuration utility software requires a separate Pentium III 1GHz (or equivalent) PC with the following minimum requirements:
  - 512 Mb RAM
  - 10 Gb fixed disk drive space
  - 10/100 Ethernet card
  - Microsoft® Windows® 2000 or Windows XP[1] operating systems

Optional Equipment

The following options are available for use with the IconMaster system. You may order these options separately and install them yourself, or you may order them at the same time as your IconMaster system so that they will be factory-installed and -configured.

- Additional power supply (for redundant power supply operation)
- Audio control panel

[1] Windows 2000 and Windows XP are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Currently the IconMaster utilities do not operate with Microsoft Vista operating system.

- Fader bar
- MKE-3901-FX effects optional submodule (for MKE-3901 module)
- MKA-3901-B balanced audio module
- ICONM-BO-V video breakout module
- ICONM-BO-VAB balanced audio breakout module
- ICONM-BO-VAC coaxial audio breakout module
- Internal routers (such as NEO NSM 7×2 routers)
- External routers, including Platinum and Panacea routers, in addition to third-party routers
- HView SX Hybrid multiviewer output module (in a Platinum frame)
- Predator multiviewer
- JLCooper Electronics eBOX Quad Serial to Ethernet Interface[1]

Figure 2-1 shows how an IconMaster system setup works. Each installation component of this setup (except for the customer-supplied PC) is explained in more detail in sequent sections.

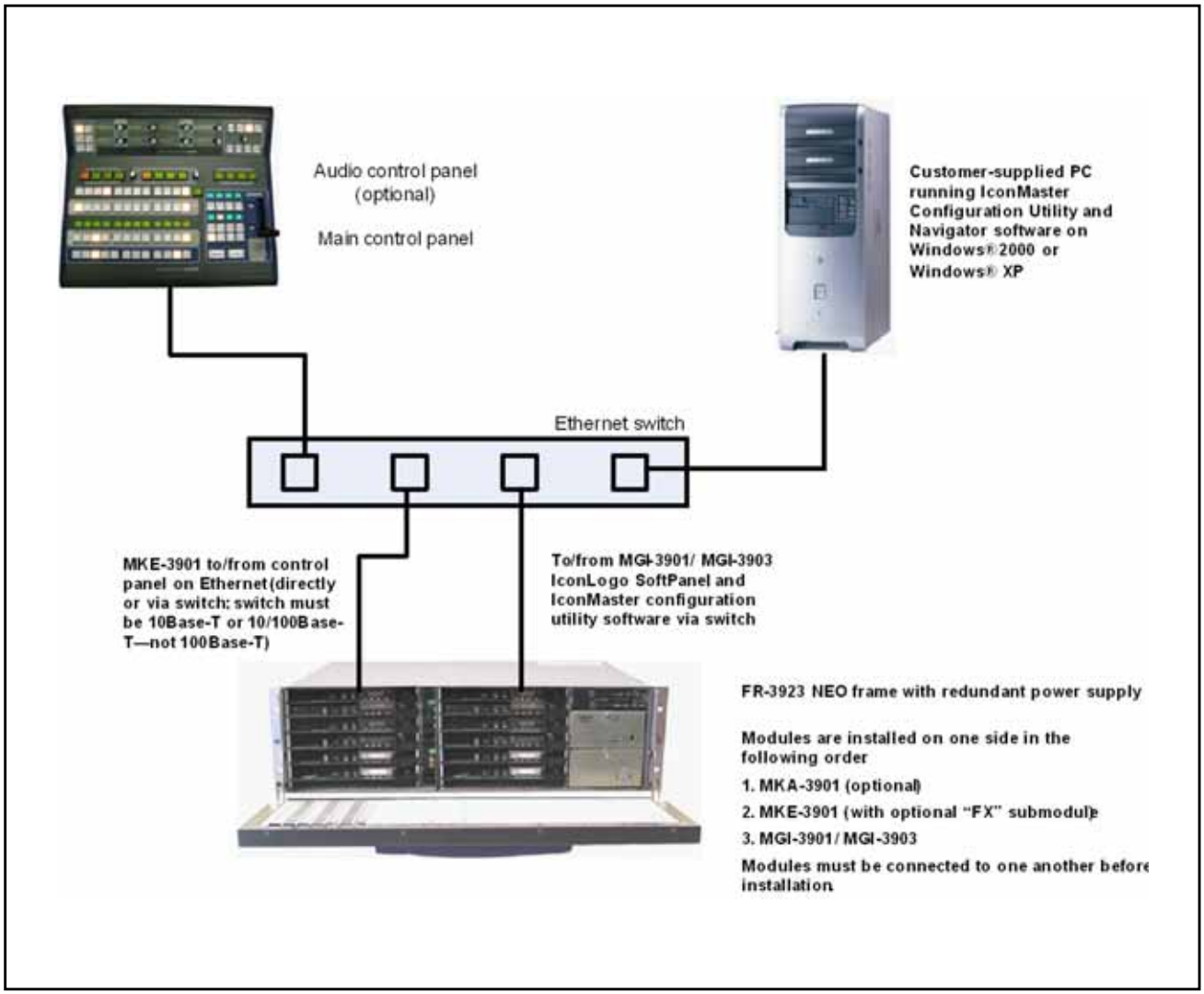

Audio control panel
(optional)
Main control panel
Customer-supplied PC running IconMaster Configuration Utility and Navigator software on Windows® 2000 or Windows® XP
Ethernet switch
MKE-3901 to/from control panel on Ethernet (directly or via switch; switch must be 10Base-T or 10/100Base-T—not 100Base-T)
To/from MGI-3901/ MGI-3903 IconLogo SoftPanel and IconMaster configuration utility software via switch
FR-3923 NEO frame with redundant power supply
Modules are installed on one side in the following order
1. MKA-3901 (optional)
2. MKE-3901 (with optional "FX" submodule)
3. MGI-3901/ MGI-3903
Modules must be connected to one another before installation

Figure 2-1 IconMaster Components

[1] "eBOX" is a trademark of JLCooper Electronics, El Segundo, California, USA

Installation Notes

- All IconMaster components must be mounted in an area where there is unrestricted air movement. Except for the MKE, MGI, and MKA modules (which are mounted in standard NEO frames) no fan cooling is required.
- The two control panels of the IconMaster system are designed for desk and tabletop operation, or for use in a standard equipment rack.
- For maximum efficiency and reliability, IconMaster control panels should be operated in an ambient temperature between 68° and 86°F (20° to 30°C) non-condensing.
- IconMaster control panels communicate with the MKE-3901 via an Ethernet network. On the same network, the MGI-3903 also connects to the PC that hosts the IconMaster configuration utility software.
- If your network includes a switch, the switch must be 10/100Base-T. The system will not function on 10Base-T or 100Base-T only.

  Some consumer or SOHO network switches may fail to auto-negotiate Ethernet port configuration with IconMaster when repowering or rebooting. For best results, use a managed switch capable of port configuration, and configure the port to 100 Mbs Full-Duplex if a failure to communicate after reboot occurs with any network switch.
- A NEO resource module is not required for IconMaster to be configured and work correctly.
- NEO frames require an ambient temperature between 32° and 122°F (0° and 45°C.) See the technical manual of your PC for information on the operating temperatures of the computer.
- NEO modules used in an IconMaster system must be connected together in the following top-to-bottom order before being inserted in a NEO frame:

  1. MKA-3901 (optional)
  2. MKE-3901 (with optional MKE-3901-FX submodule)
  3. MGI-3903

  Because the modules are physically connected together, they must all be installed on the same side of the frame.

  CAUTION

  If your IconMaster package was not factory-installed in a NEO frame, ensure that you use the provided screws to secure the modules together before they are inserted in the frame.

Sequence of Events for Installation

For a fully functional IconMaster system, you must install and configure the hardware components, and initialize certain settings. (Your particular installation may or may not include all of these steps, depending on which options you purchased.) After the installation is complete, you will need to configure the hardware modules, internal and external routers, and control panel components. These configuration tasks are explained in separate chapters.

Table 2-1 Sequence of Events for Installation

Step	For more information
1 Install fader bar (if ordered separately)	page 48
2(optional) If the audio control panel was purchased separately, connect main control panel to audio control panel	page 12
3 Mount the control panel(s) into a desktop or a rack	page 14
4 Connect the control panel to another device	page 18

Table 2-1 Sequence of Events for Installation *(Continued)*

Step	For more information
5 Install NEO options into NEO frame (if ordered separately)	page 24
6 Install NEO frame into a rack	page 26
7 Install and configure internal or external routers Configure internal NSM modules OR Install HView SX Hybrid into Platinum router (if ordered) and then mount external router in a rack ❑ If it's a Panacea router, configure it ❑ If it's a Platinum router and you'll be using it with an eBOX, configure the eBOX after installing the router hardware. Then configure the Platinum Then configure HView SX Hybrid	 page 62 See HView SX Hybrid manual and/or router manual page 73 page 94 page 91 page 94
8 Attach breakout modules	page 32
9 Connect the NEO modules to another device	page 27
10 Check card-edge parameters are set to your preferences	page 69
11 Configure IconMaster control panel	page 147
12 Initialize IconMaster	page 126
13 Customize push buttons on control panel	page 47

Tools You Will Need

The following is a list of tools and equipment you will need for a successful IconMaster installation. (Your particular installation may or may not require all of these items, depending on which options you purchased.)

- Desk or table with cutout; use the dimensions found on page 15

  OR

  One standard 19-in. (0.4-m) rack and four to eight 40×1/4 flat-head screws
- One medium Phillips screwdriver
- For a direct setup (MKE-3901 directly to IconMaster control panel), one 36-in. (91-cm) crossover cable
- For a network setup (IconMaster to Ethernet)
  - ❑ 1 network hub, at least 10Base-T or 10/100Base-T
  - ❑ Standard 10 Mbps 10Base-T Ethernet cable segments no longer than 382.08 ft (100 m) for IconMaster control panel, MKE-3901 module, and MGI-3903 module
- RS-232 or TIA/EIA-422-B cable segment; no longer than 50 ft (15 m) for RS-232, and 2,000 ft (610 m) for TIA/EIA-422-B, for use with external router or automation control device
- *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual*
- Internal routing device module, as appropriate (NEO NSM-7×2SHD or NSM-7×2AES)
- External routing device, as appropriate (Platinum, Panacea)
- External routing device manual, as appropriate:

- (For use with NSM-7×2SHD internal routers) *NEO NSM-8×1SHD/NSM-7×2SHD SD/HD Wideband Video Routing Switchers Installation and Operation Manual*
- (For use with NSM-7×2AES internal routers) *NEO NSM-8×1EAS/NSM-7×2AES Serial Digital Audio Routing Switchers Installation and Operation Manual*
- (For use with Platinum 9RU, 15RU, and 28RU frames) *Platinum Series Frames and Modules Installation, Configuration, and Operation Manual*
- (For use with Panacea frames) *Panacea Series Frame and Modules Installation, Configuration, and Operation Manual*

- (For use with optional HView SX Hybrid multiviewer) *HView SX Hybrid Multiviewer Installation, Configuration, and Operation Manual* and *HView SX Hybrid Layout Designer User Guide*
- (For use with optional eBOX) *eBOX Ethernet to Serial & GPI Interface Users Manual*

Sample System Layout

Figure 2-2 shows a sample system layout that includes an external router, PC, Ethernet switch, and IconMaster system. For illustrations of sample system layouts for NEO routers, see ***System Configurations—NEO Routers*** on page 62. For illustrations of sample system layouts for Panacea routers, see ***System Configurations—NEO Routers*** on page 62.

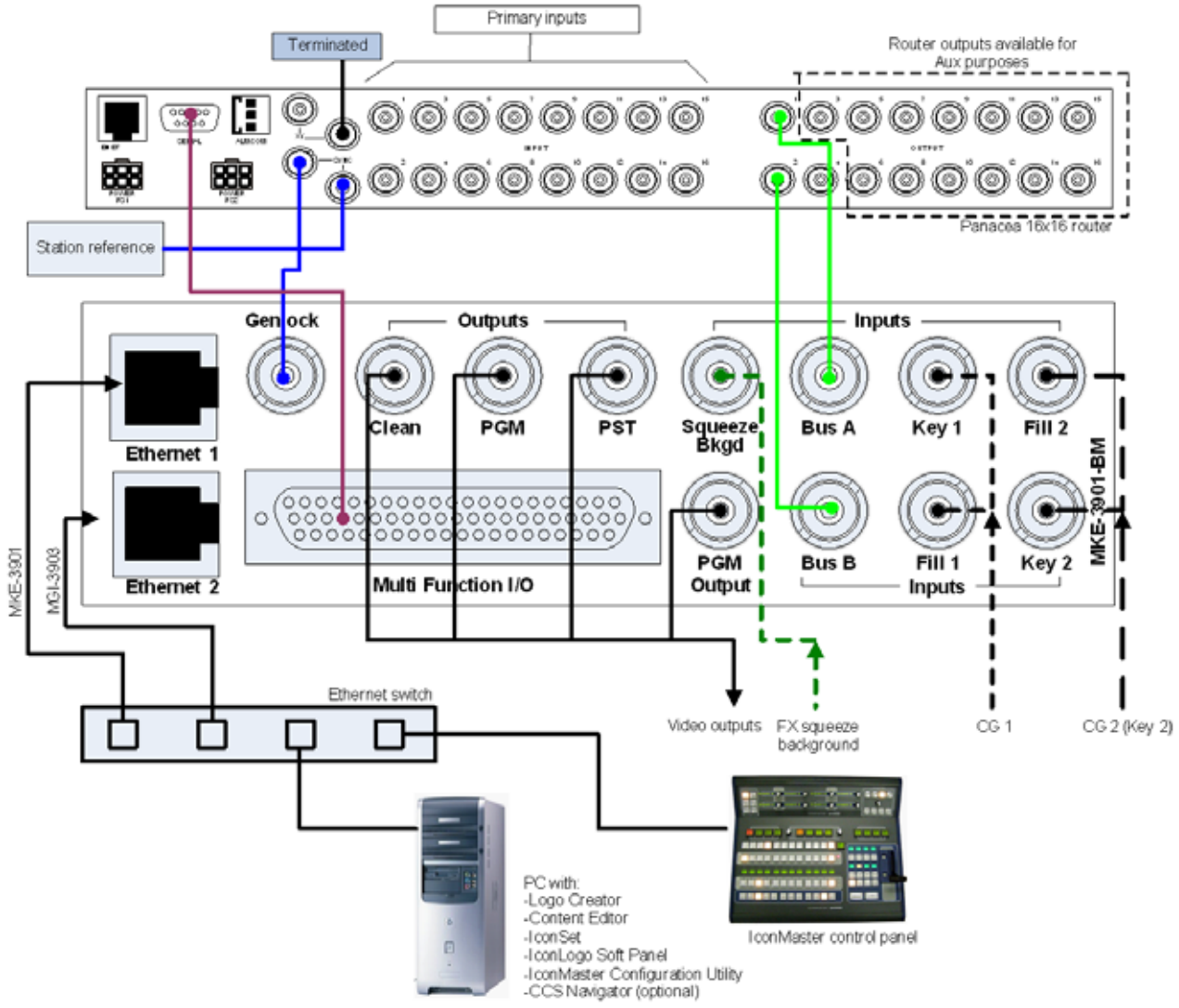


Figure 2-2 Sample System Layout

Installing Control Panels

Connecting the Main Panel and Optional Audio Panel

The IconMaster main control panel and audio control panel are connected to each other both mechanically (by means of a bracket) and electrically (by using two wiring harnesses). The audio control panel cannot operate independently of the main control panel, and must always be directly attached. If you ordered both controls at the same time, they will be preassembled at the factory.

If you ordered the control panels at different times you can connect them together yourself. To connect the main control panel and audio control panel together, follow these steps:

1 Remove the four screws on each side of the main control panel trim (see **Figure 2-3**).

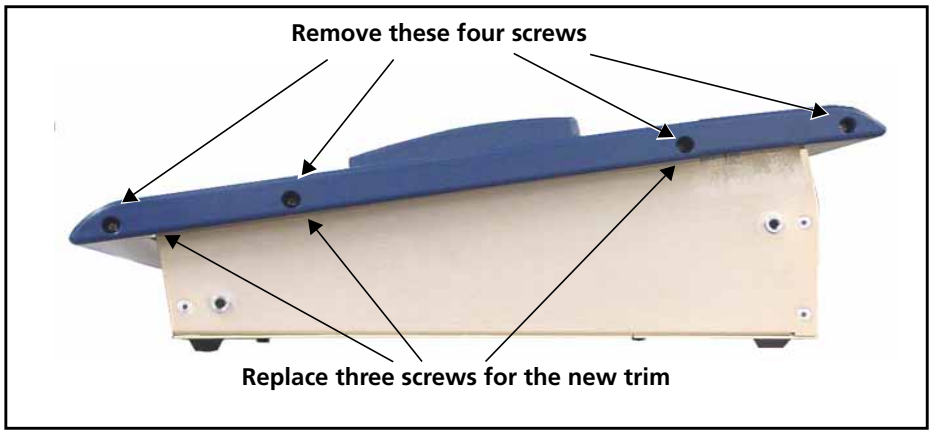


Figure 2-3 Removal of Trim

2 Replace the side trim with the two new shorter pieces supplied. Only three screws are required on each side to attach the new trim.

3 Remove the cover plate from the back of the main control panel (see **Figure 2-4**).

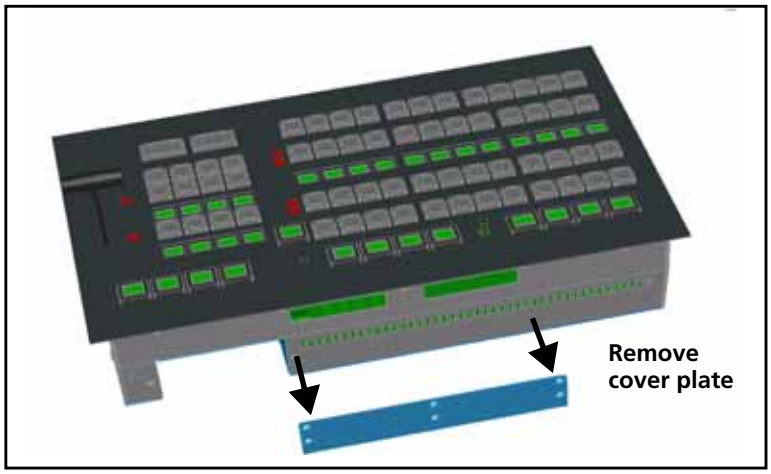


Figure 2-4 Removal of the Main Control Panel Cover Plate

4 Attach the audio control panel mounting bracket to the back of the main control panel, using the screws provided (see **Figure 2-5**).

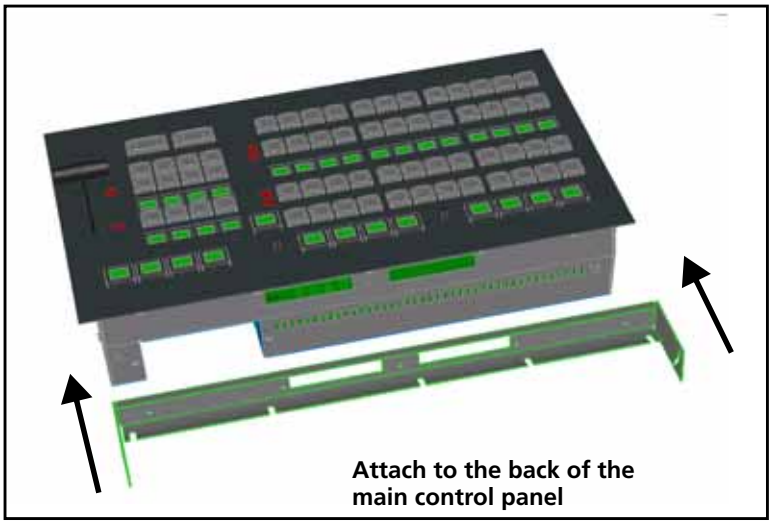


Figure 2-5 Audio Control Panel Mounting Bracket

5 Face the audio control panel down on top of the main control panel buttons. Attach the two ribbon cables from the main control panel to the audio control panel (see **Figure 2-6**).

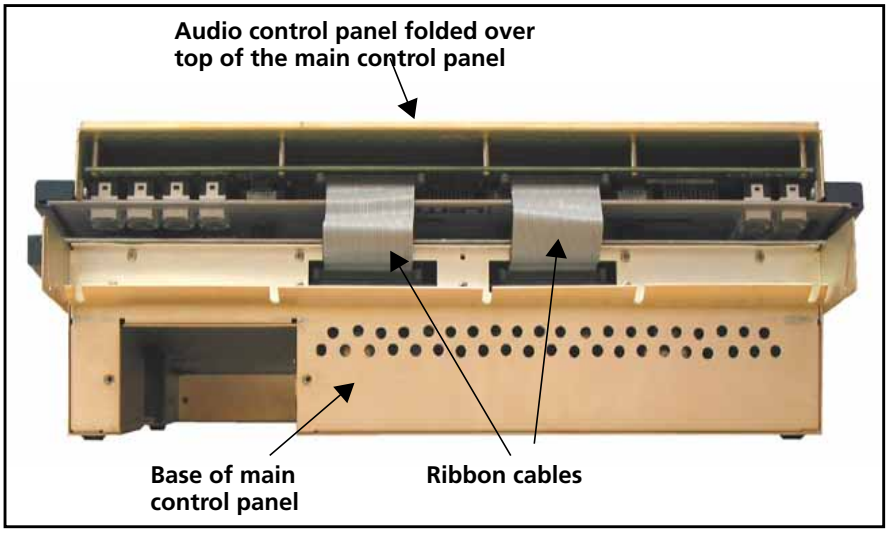


Figure 2-6 Ribbon Cable Between Main and Audio Control Panels

6 Attach the audio control panel to the mounting bracket by inserting the provided screws in the curved slots that overlap each side of the audio control panel (see **Figure 2-7**).

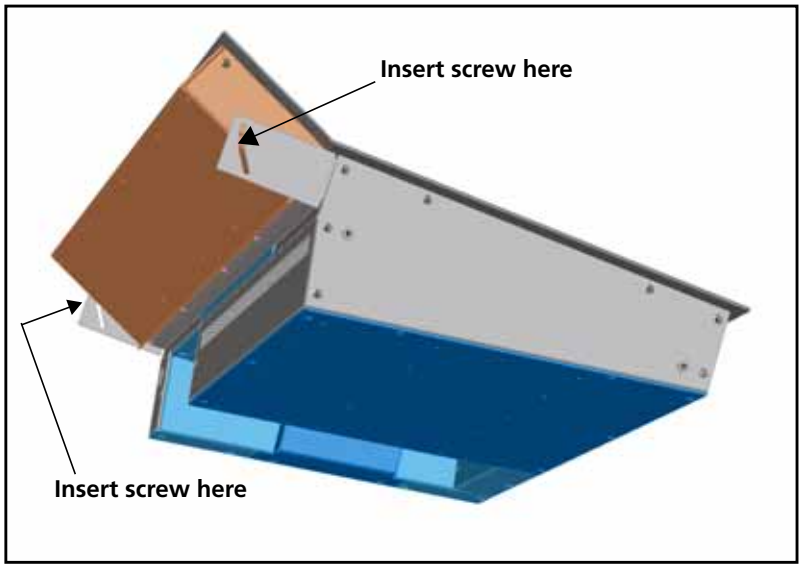


Figure 2-7 Audio Control Panel Attachment

7 Set the audio control panel to the viewing angle that suits your needs, and then tighten the sliding screws.

Mounting the Control Panels

The two control panels of the IconMaster system are designed for desk and tabletop operation, or for use in a standard equipment rack. Desk and tabletop mounting are described on page 14; rack mounting is described on page 15.

Mounting Panels in a Desk or a Tabletop

The IconMaster control panels can be set into a desk or tabletop. (The optional audio control panel must be attached to the main control panel before you mount it; see ***Connecting the Main Panel and Optional Audio Panel*** on page 12.*)*

Note: *The control panels are easier to see and use if the tabletop or desk is angled towards the operator. For illustration purposes here, the trim has been removed. In a typical desk or tabletop installation, the trim will remain attached.*

Follow these steps to mount the control panels into a desk or tabletop:

1 Using the dimensions shown in **Figure 2-8** (for the main control panel only) or **Figure 2-9** (for the main and audio control panels together), make a cutout in the desk or tabletop.

2 Carefully place the control panels into the cutout.

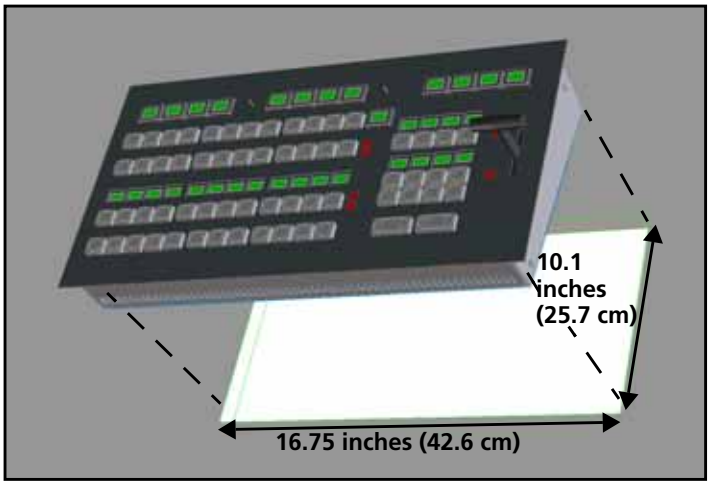


Figure 2-8 Desk or Tabletop Mount of Main Control Panel Alone

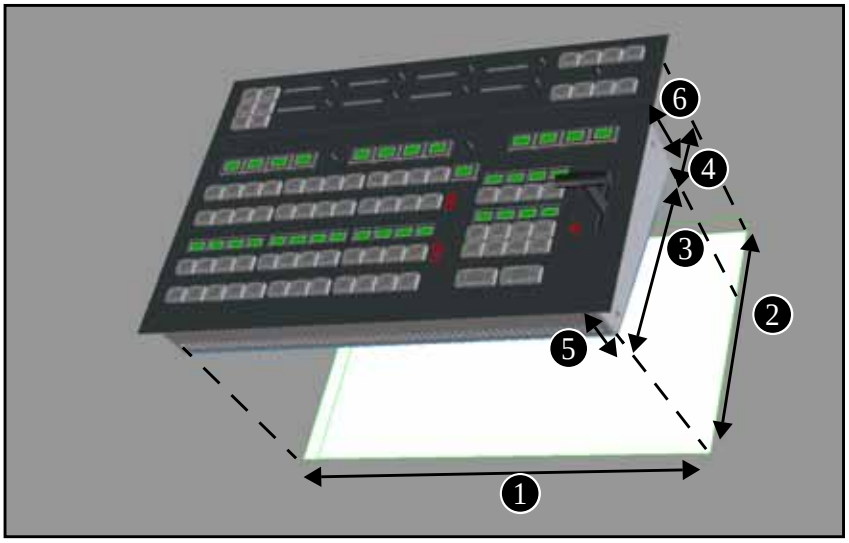


Figure 2-9 Desk or Tabletop Mount of Main and Audio Control Panels

1	Width of panel left to right	16.75 inches (42.6 cm)
2	Length of panel front to back (total)	13.9 inches (35.3cm)
3	Length of panel front to back (underside)	10.1 inches (25.7cm)
4	Length of audio panel overhang	3.8 inches (9.6cm)
5	Panel depth (front)	3.5 inches (8.8 cm)
6	Panel depth (back)	2.1 inches (5.2 cm)

Mounting Control Panels into a Rack

Note: *The main and audio control panels can be mounted in a rack with or without the outer trim attached. However, the outer trim will use an additional 1RU of extra space above and below the unit if it is left attached. If you choose to remove the trim, ensure that you replace the two middle screws found on each side (see* ***Figure 2-3*** *on page 12).*

To install the main control panel and the optional audio control panel in a rack, use the adjustable left and right-side frame mounting brackets that are provided. The brackets are designed so that you can angle the panels either upward or downward, according to your needs. (See **Figure 2-13**.) If you are using an audio control panel, attach and connect the audio panel to the main control panel frame before you attach the brackets (see ***Connecting the Main Panel and Optional Audio Panel*** on page 12).

The following steps describe the installation of the control panels in a rack. If you do not wish to remove the trim, start at step 6.

1 Remove the three or four screws on each side of the main control panel trim (see **Figure 2-10**)

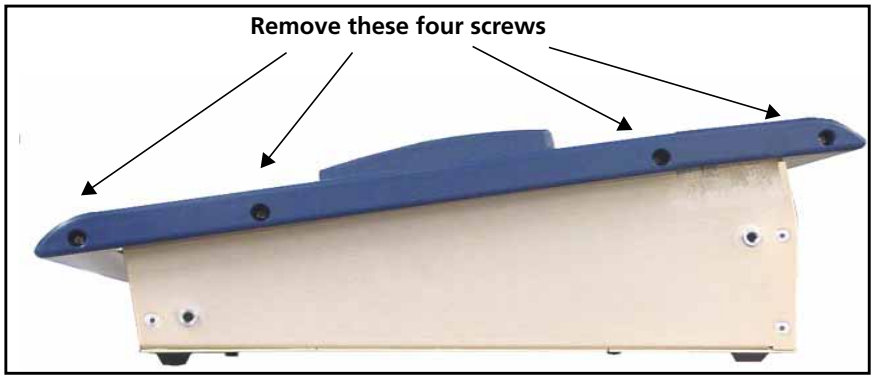


Figure 2-10 Removal of Trim for Rack Mounting

2 Remove the trim pieces from the sides of the main control panel.

3 Remove the wrist rest from the bottom of the main control panel.

4 Replace the middle two screws on each side of the main control panel with 4-40×1/4 FH screws (see **Figure 2-11**).

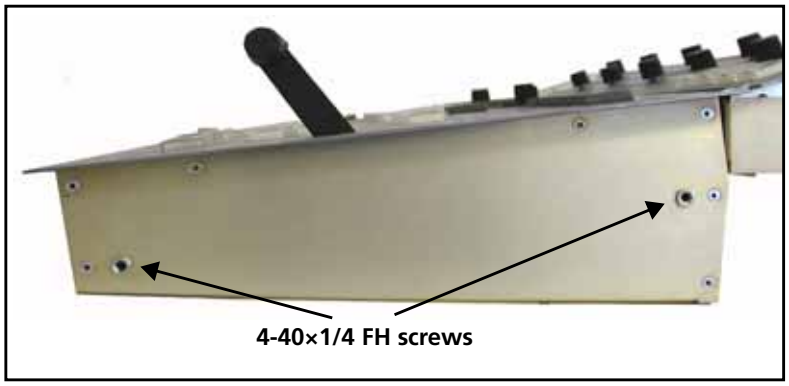


Figure 2-11 Main Control Panel Side Screws

5 If there is no audio control panel:

- Remove the trim from the top of the main control panel.

If there is an audio control panel:

a Remove the three screws on each side of the audio control panel trim.

b Remove the trim from the sides of the audio control panel.

c Remove the trim from the top of the audio control panel.

d Replace the two screws on each side of the audio control panel with 4-40×1/4 FH screws (see **Figure 2-12**).

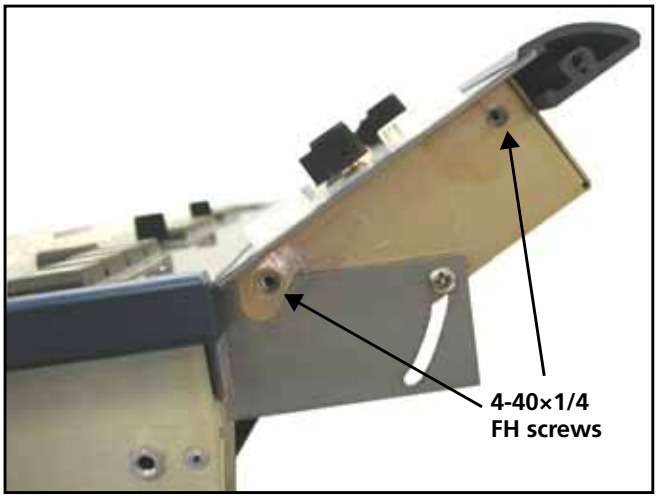


Figure 2-12 Audio Control Panel Side Screws

6 Attach the mounting brackets to the sides of the main control panel using the screws provided (see **Figure 2-13**).

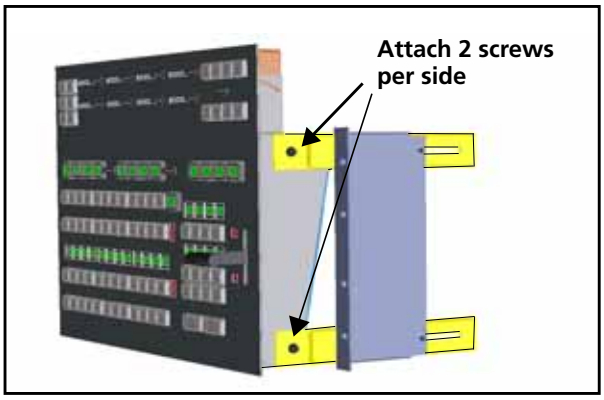


Figure 2-13 Attaching the Rack-Mount Bracket

7 Loosen the screws on the sliders, and then reposition the sliders to change the viewing angle of the control panels (see **Figure 2-14**).

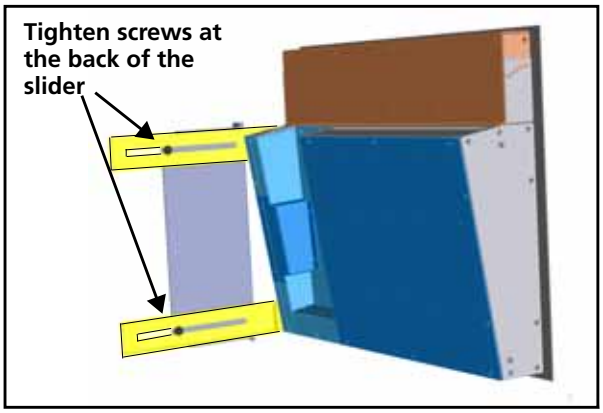


Figure 2-14 Adjustment of Slider Screws

8 Tighten the slider screws and make all of the necessary cable connections on the back of the main control panel.

9 Align the control panel assembly so that the screw holes in the mounting brackets match up with those at the front of the rack.

10 Secure the control panel assembly to the rack with 10×32 machine-head mounting screws and washers.

11 Make necessary control panel connections (see page 18).

Connecting Main Control Panel Components

The IconMaster main control panel has external connections located in a bay on the underside of the unit (**Figure 2-16**). In addition, two 50-pin connectors at the back of the panel provide an interface with the optional audio control panel.

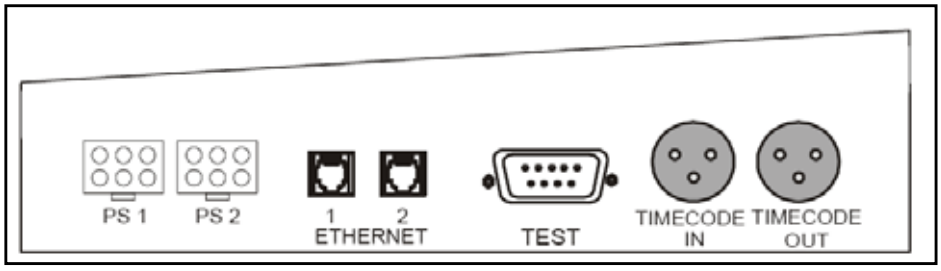


Figure 2-15 Main Control Panel External Connections—Older Models

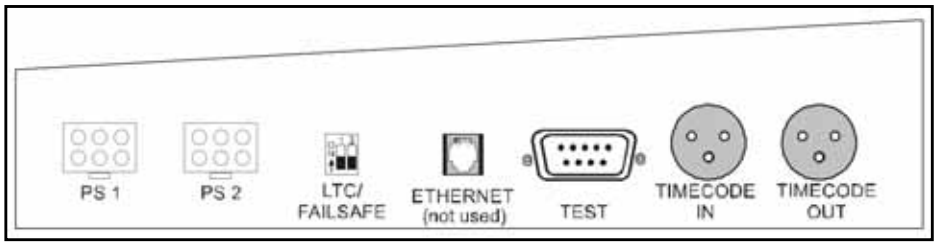


Figure 2-16 Main Control Panel External Connections—Newer Models

The Timecode IN provides a means for IconMaster to read a facility time-of-day real-time clock. If desired, feed a *unity speed, forward counting* LTC timecode signal into the Timecode IN connector, and configure the IconMaster to use the RCP panel as it's primary time-of-day clock source. A MTG-3901 module or CSD5300 product can be used for this timecode signal. DIP Switch 1 (below) is used to set the Timecode IN termination to either open or 600Ω. See page 170 to setup IconMaster to use the RCP's Timecode IN as the real-time clock source.

Note: *One RCP panel can be setup as the real-time clock source for multiple IconMaster channels.*

The Timecode OUT connector is used to feed an external LTC timecode display device with a time function from the IconMaster. IconMaster can display either the time-of-day or its segment timer on this output. See page 170 to set this up.

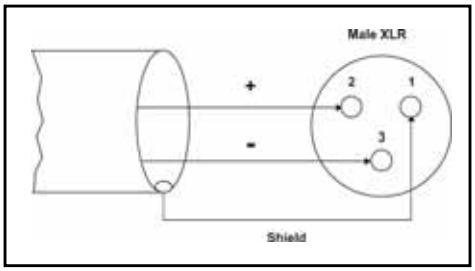


Figure 2-17 Timecode IN (Rear Panel View)

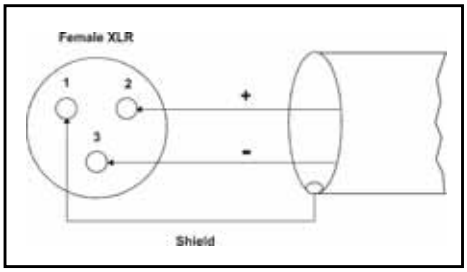


Figure 2-18 Timecode OUT (Rear Panel View)

DIP Switch Settings

The DIP switches on the main control panel allow you to set values for termination for timecode in (LTC) and for failsafe bootloader (CPU BOOT). DIP switch 1 controls the LTC setting and DIP switch 2 controls the CPU BOOT setting. See **Figure 2-19** on page 19 for the values of these settings.

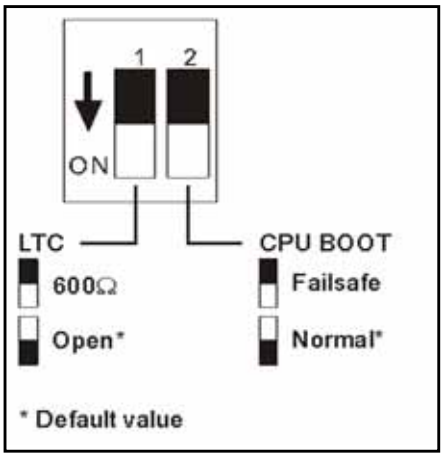


Figure 2-19 DIP Switch Setting Values

Note: *Failsafe mode is used only if the panel fails to load properly on power up. In this mode the file system can be manually restored. Contact customer service for additional details*

Power Supply

The IconMaster main control panel uses one external power supply. (For redundant power supply operation, two power supply units must be used.)

The DC output from one of the provided power supplies should be connected to **PS1** on the IconMaster control panel. Connect the second, redundant power supply to **PS2**.

When you plug in the power supply, the IconMaster control panel buttons will light up. You may want to verify the IP address and software version for your system. This function is performed via the Service menu (see the *IconMaster Function Operation and Configuration Manual* for instructions).

NEO Modules Connection (Not Connected to a Network)

The IconMaster main control panel can be connected directly to the system's NEO frame-based modules when the system is not connected to a network. To do this, connect **Ethernet** on the main control panel to **Ethernet 1** on the MKE-3901 back module using a crossover (twisted) cable.

Network Connection

The IconMaster main control panel can be connected to a network system. To do this, connect **Ethernet** on the IconMaster main control panel (or Ethernet 2 on older panels) directly to a switch on the network using a straight cable.

Note: *Some consumer or SOHO network switches may fail to auto-negotiate Ethernet port configuration with IconMaster when repowering or rebooting. For best results, use a managed switch capable of port configuration, and configure the port to 100 Mbs Full-Duplex if a failure to communicate after reboot occurs with any network switch.*

Installing NEO Modules

Installing Standard NEO Modules (MKE-3901 and MGI-3903)

An IconMaster system includes an MKE-3901 mixer/keyer module and an MGI-3903 IconLogo graphics module as standard equipment. These modules and their corresponding back connector modules are pre-installed at the manufacturing facility.

IconMaster LITE systems do not include the MGI-3903 IconLogo graphics module.

Changing MKE-3901 Front Module Jumpers Setting

Note: *There are no jumpers on the MKA-3901 discrete audio module.*

The MKE-3901 front module includes these jumpers. (**Table 2-2** on page 23 shows the different jumpers and their settings. Jumpers are preset to default values at the manufacturing facility. Default values are indicated in **Table 2-2**.)

- J16: Reference input termination (see **Figure 2-20** for the location)
- J17 and J18: Serial E and Serial A port standards (see **Figure 2-21** for the location)
- J20 and J22: AES Audio-Over 1 and 2 (see **Figure 2-20** for the location)
- J25 and J26: Serial Port A (RS-232-A) format (see **Figure 2-22** for the location)

To change the jumper settings, follow these steps:

1. Remove the MKE-3901 module from the NEO frame. (For instructions, see the *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual*).
2. Using a pair of tweezers or needle-nosed pliers, pull the jumper pack loose from its location.
3. Push the jumper pack onto the pins of the desired location.
4. Reinstall the MKE-3901 front module into the NEO frame.

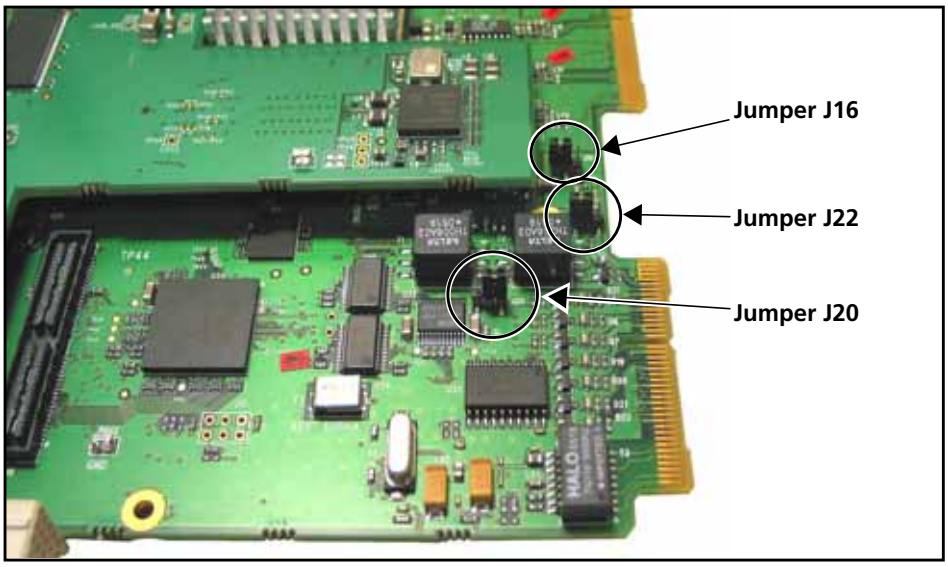


Figure 2-20 Jumpers for Reference Input and AES Audio-Over

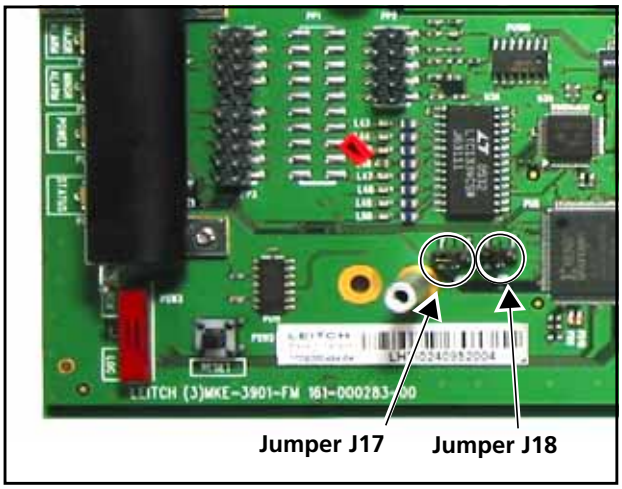


Figure 2-21 Jumpers for Serial Port Standard[1]

[1] Jumper J17 on MKE-3901 must be set to same standard as jumper pack A2. Jumper J18 on MKE-3901 must be set to same standard as jumper pack A1. For more information see **Figure 2-34** on page 37 and **Table 2-9** on page 39.

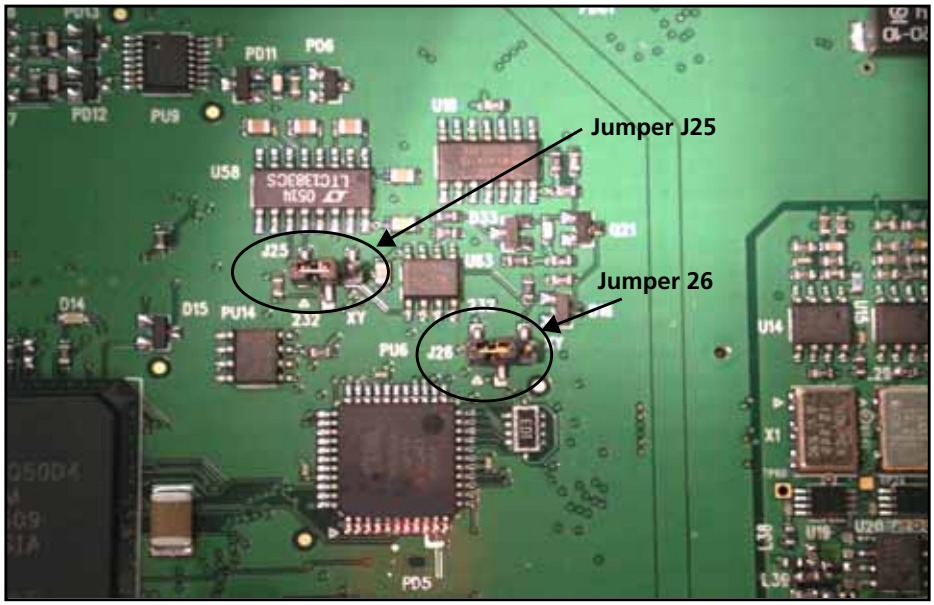


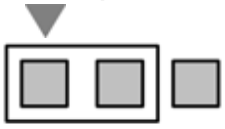
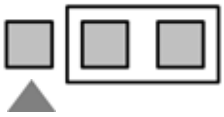
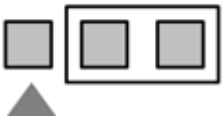
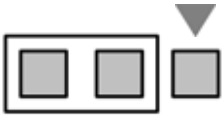
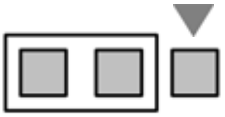
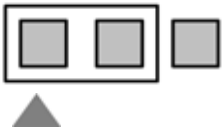
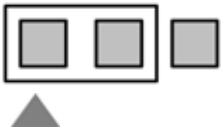
Figure 2-22 Jumpers for Serial Port A Format

Note: *Jumpers **J20** and **J22** on the MKE-3901 must be set to **Balanced** when the video breakout module is used.*

*Jumper **J17** on the MKE-3901 must be set to the same standard as jumper pack **A2**. For more information see **Figure 2-34** on page 37 and **Table 2-9** on page 39.*

*Jumper **J18** on the MKE-3901 must be set to the same standard as jumper pack **A1**. For more information see **Figure 2-34** on page 37 and **Table 2-9** on page 39.*

Table 2-2 Jumper Settings

Function	**Settings**	
Reference input termination	Jumper 16 **75Ω impedance***  **Hi-Z impedance** 	
Serial port standard	Jumper 17/ Port E Ext. Routing Control **Serial RS-232*** **Serial RS-422** 	Jumper 18/Port B Automation **Serial RS-232** **Serial RS-422*** 
Audio-over impedance	Jumper 22 **AES A/O 1 balanced***  **AES A/O 1 unbalanced** 	Jumper 20 **AES A/O 2 balanced***  **AES A/O 2 unbalanced**
Serial port A (RS-232 format) Must always be set to 232	**Jumper 25**  **232**	**Jumper 26**  **232**
	* Default value	

Installing Optional NEO Modules (MKE-3901-FX and MKA-3901)

In addition to the standard NEO modules that come with your IconMaster system, you may purchase an MKE-3901-FX effects submodule and/or an MKA-3901 balanced audio module.

Note: *When purchased as a package, the MKE-3901 and the MKA-3901 are attached together using standoffs and screws.*

If you ordered these optional modules at the same time as your IconMaster, the modules will be installed in the NEO frame at the manufacturing facility, and no further NEO module installation procedures are necessary. If you ordered these optional modules separately, you can install them yourself. For module installation instructions, see the *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual*.

Figure 2-23 MKA-3901, MKE-3901, and MGI-3903 Module Order

To function correctly, MKA-3901, MKE-3901, and MGI-3903 modules must be connected to one another before installation, and the modules must be mounted in a specific order in a NEO frame. **Figure 2-23** on page 24 shows the alignment of the modules; **Figure 2-24** on page 25 shows an exploded view. The MKA-3901 and MKE-3901-FX are attached to the MKE-3901 module.

- Top – MKA-3901 front module[1]
- Middle – MKE-3901 front module[2] with optional MKE-3901-FX submodule[3]
- Bottom – MGI-3903

[1] MKA-3901 modules do not require specific jumper settings.
[2] MKE-3901 modules require specific jumper settings. See page 20 for more information.
[3] MKE-3901-FX modules may be ordered and installed separately. See page 26 for more information.

.

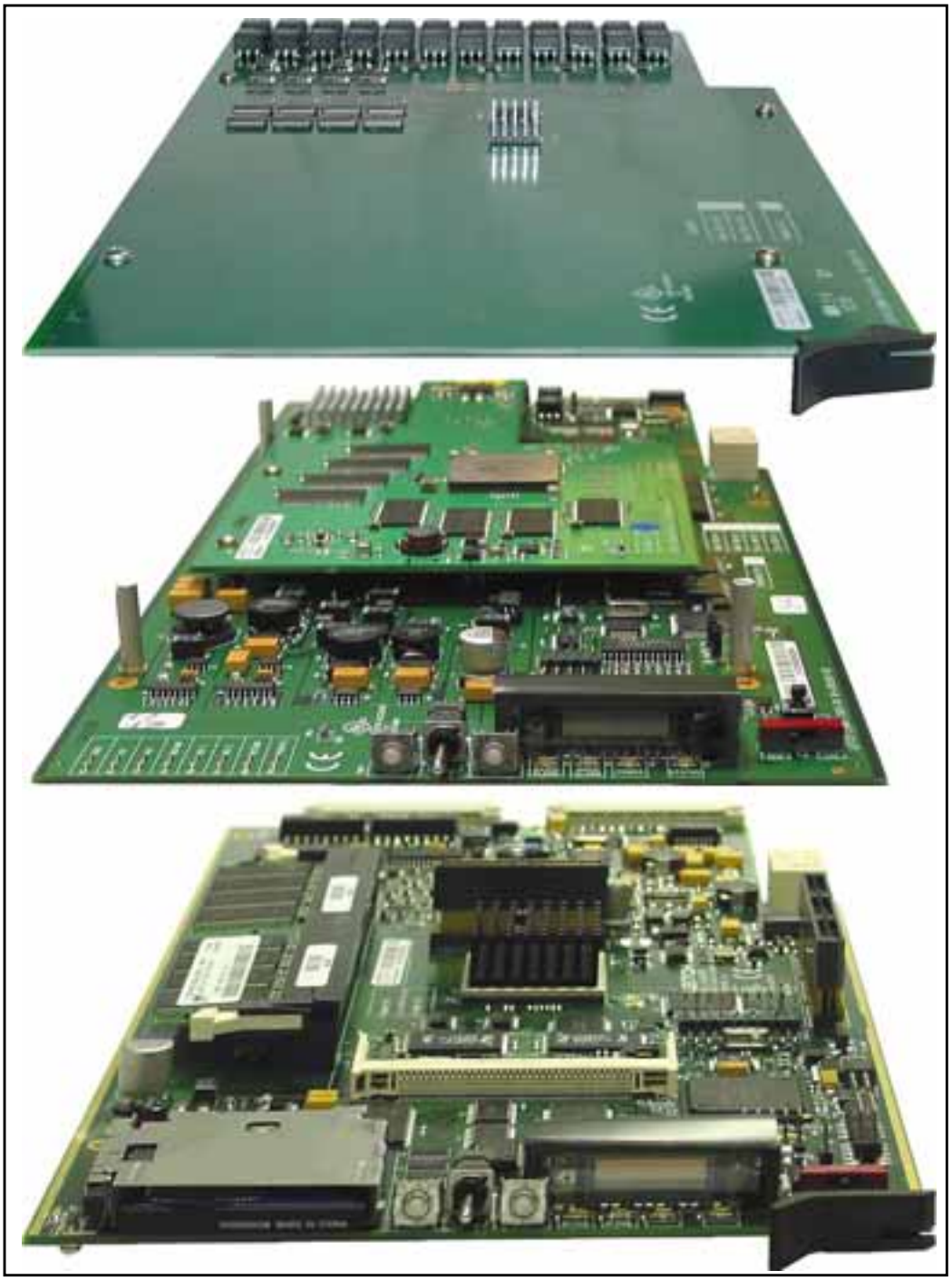


Figure 2-24 Exploded View: MKA-3901 Front Module (Top) and MKE-3901 Front Module with Optional MKE-3901-FX Submodule (Middle), and MGI-3903 (Bottom)

Installing the Optional MKA-3901 Submodule

The MKA-3901 submodule can be ordered separately. (If you ordered this optional module at the same time as your IconMaster, it will be installed in the NEO frame at the manufacturing facility, and no further NEO module installation procedures are necessary.) If you have ordered the module separately and need to install it in your IconMaster system, follow these steps:

1. Remove the MKE-3901 module from the NEO frame.
2. Fit the MKA-3901 module to the MKE-3901 module.
3. Secure using standoffs and retaining screws.
4. Reinstall the MKE-3901/MKA-3901 into the NEO frame, and then close the front panel.

Installing the Optional MKE-3901-FX Submodule

The MKE-3901-FX submodule can be ordered separately and added to an existing MKE-3901 module. (If you ordered this optional module at the same time as your IconMaster, it will be installed in the NEO frame at the manufacturing facility, and no further NEO module installation procedures are necessary.) If you have ordered the module separately and need to install it in your IconMaster system, follow these steps:

1. Remove the MKE-3901 module from the NEO frame.
2. If your system includes an MKA-3901 module, remove the four retaining screws from the MKA-3901 module, and then separate the MKA-3901 module from the MKE-3901.

   Retain the screws.
3. Locate and fit the MKE-3901-FX module into the correct position on the MKE-3901 module.
4. Install the submodule with the retaining screws included.
5. If applicable, fit the MKA-3901 module to the MKE-3901 module again.
6. Secure using standoffs and retaining screws.
7. Reinstall the MKE-3901 into the NEO frame, and then close the front panel.

Installing the NEO Frame into a Rack

For instructions about installing a NEO frame into a rack, see the *FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual*.

Your installation may also require breakout panel connections. See page 32 for more information.

Connecting NEO Components

MKE-3901 Back Module Connections

Figure 2-25 shows the back module of the MKE-3901 module. Make all appropriate I/O connections as appropriate for your system setup. Specific information concerning Ethernet, Genlock, Bus A and B, and multifunction I/O connectors is provided below.

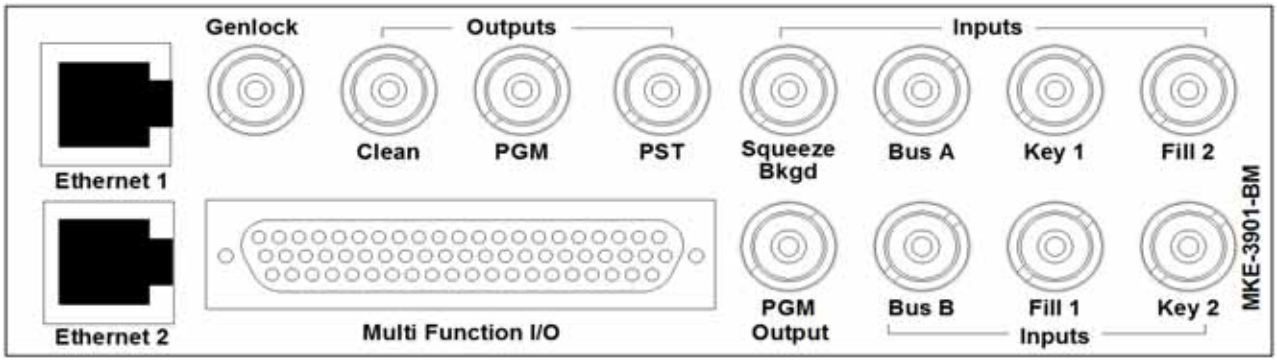


Figure 2-25 MKE-3901 Back Module

Ethernet

Use Ethernet 1 to connect the MKE-3901 to a network hub or directly to an IconMaster control panel.

Use Ethernet 2 to connect the MGI-3903 to a network hub or directly to an IconLogo control panel.

Genlock

The default **Genlock Source Type** is **Composite**. To change this setting, see the **Genlock** dialog box in the IconMaster configuration utility software.

This input is terminated to 75Ω internally by default. See jumper J16 on page 23 if termination is not desired.

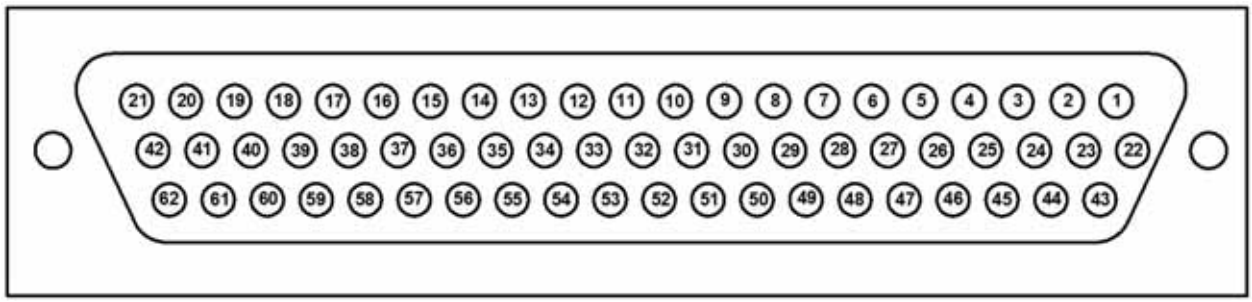
Multifunction I/O

The pin numbers for the **Multi Function I/O** connector, with corresponding pinout information, are shown in Table 2-3 on page 28.

Bus A/Bus B Input Connectors

For information about Bus A and Bus B connectors, see ***System Configurations—NEO Routers*** on page 62 and ***System Configurations—Platinum Routers*** on page 91.

Table 2-3 MKE-3901 Multi-Function I/O Pinouts
This pinout information is for use when it is necessary to wire directly to the connector. If you are using a ICONM-BO-V breakout module (shown in **Figure 2-27** on page 32), this information is not required.



Pin	Function	Pin	Function	Pin	Function
1	MKE AES A/O 2 (B+)*	22	MKE AES A/O 1 (B-)*	43	MKE AES A/O 1 (B+)*
2	Ground	23	MKE AES A/O 2 (B-)*	44	Ground
3	GPI 11	24	Ground	45	GPI 9
4	GPI 14	25	GPI 12	46	GPI 10
5	GPI 17	26	GPI 13	47	GPI 15
6	GPI 18	27	GPI 16	48	GPO 8
7	GPO 6	28	GPO 11	49	GPO 9
8	GPO 4	29	GPO 7	50	GPO 10
9	GPO 2	30	GPO 5	51	GPO 12
10	Bypass relay control	31	GPO 3	52	GPO 13
11	GPI 8	32	GPO 1	53	MGI LTC +
12	GPI 4	33	GPI 6	54	MGI LTC -
13	GPI 7	34	GPI 2	55	MGI temperature sensor +
14	RS-232-B RxD *or* RS-422-B RX -	35	GPI 5	56	MGI temperature sensor -
15	RS-232-B n/c *or* RS-422-B RX +	36	GPI 3	57	RS-232-D RxD
16	RS-232-E TxD *or* RS-422-E TX -	37	GPI 1	58	RS-232-D TxD
17	RS-232-E n/c *or* RS-422-E TX +	38	Ground	59	RS-422-C TX -
18	RS-232-E n/c *or* RS-422-E RX +	39	+5V**	60	RS-422-C TX +
19	RS-232-E RxD *or* RS-422-E RX -	40	Ground	61	RS-422-C RX +
20	RS-232-B TxD *or* RS-422-B TX -	41	RS-232-B n/c *or* RS-422-B TX +	62	RS-422-C RX -
21	RS-232-A RxD	42	RS-232-A TxD		

*Audio Over 1 and 2: For balanced data, use B+ and B-. For unbalanced (coax), use B+ for the signal and connect B- to ground (shield). There are also jumpers on the MKE card, which must be set to indicate balanced or coax.
**Reserved for bypass relay operation.

MKA-3901 Back Module Connections

Figure 2-26 shows the back module of the MKA-3901 module. Make all appropriate I/O connections as appropriate for your system setup.

- The pin numbers for the AES Input connector, with corresponding pinout information, are shown in **Table 2-4** on page 29.
- The pin numbers for the AES Output connector, with corresponding pinout information, are shown in **Table 2-5** on page 30.

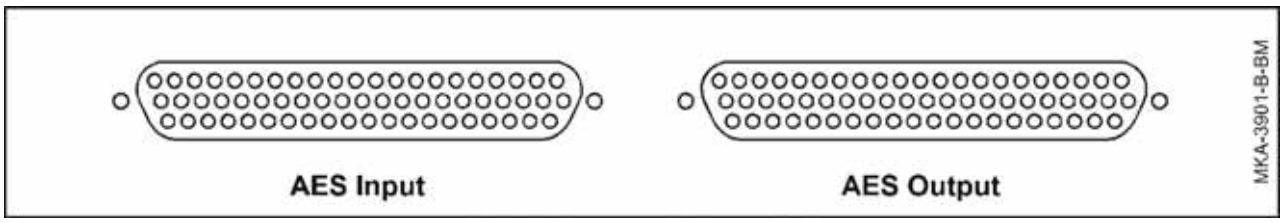
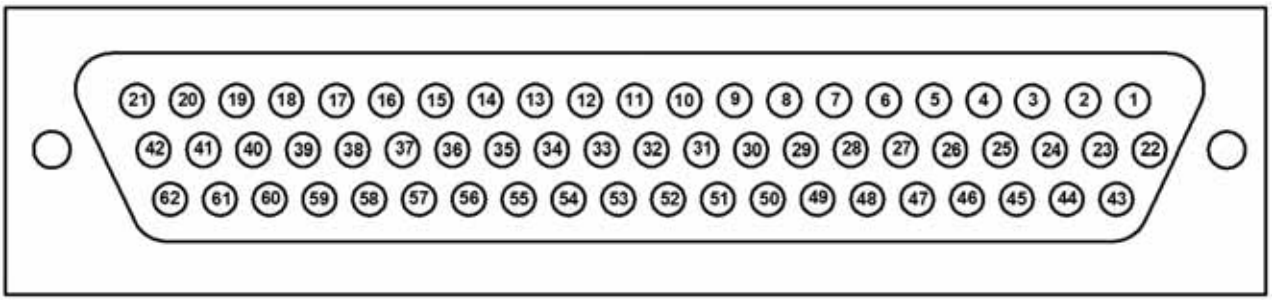


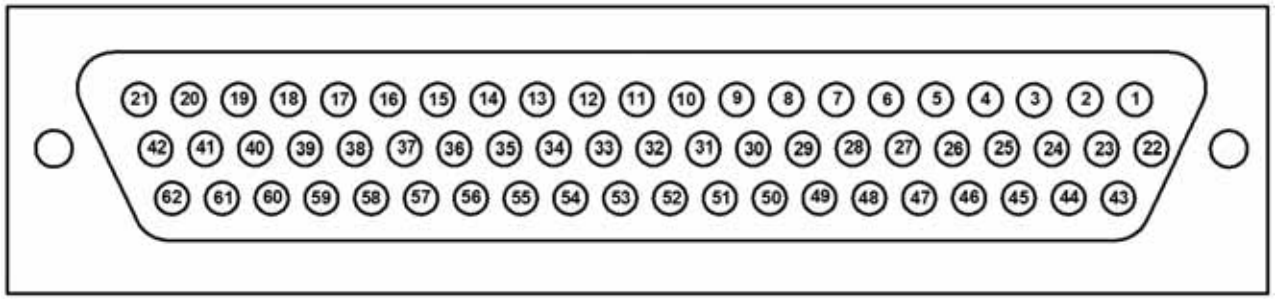
Figure 2-26 MKA-3901 Back Module

Table 2-4 MKA-3901 AES Input Connector Pinouts
This information is for use when it is necessary to wire directly to the AES input connector. If you are using a ICONM-BO-VAC or ICONM-BO-VAB breakout module, this information is not required.



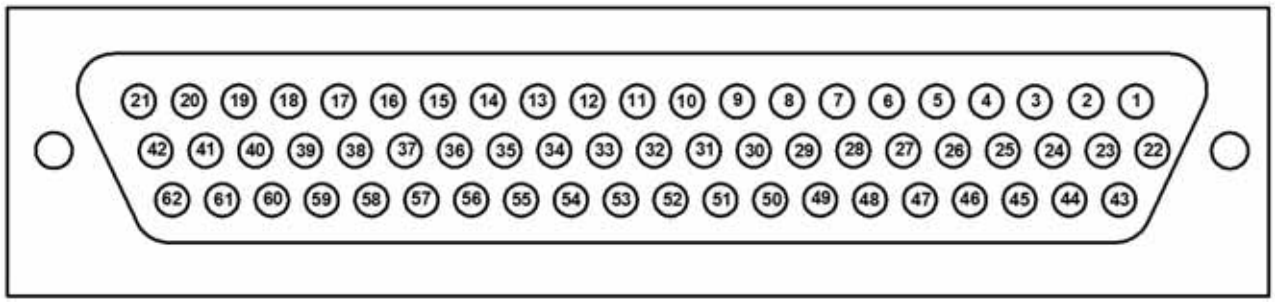
Pin	Function	Pin	Function	Pin	Function
1	Spare	22	Ground	43	AES BUS A 4 (B-)
2	Spare	23	N/C	44	AES BUS A 4 (B+)
3	Ground	24	Ground	45	Ground
4	Spare	25	Ground	46	AES BUS A 2 (B-)
5	Spare	26	Ground	47	AES BUS A 2 (B+)
6	Ground	27	Ground	48	Ground
7	AES BUS A 3 (B+)	28	Ground	49	AES BUS B 4 (B-)
8	AES BUS A 3 (B-)	29	Ground	50	AES BUS B 4 (B+)
9	Ground	30	Ground	51	Ground
10	AES BUS A 1 (B-)	31	Ground	52	AES BUS B 2 (B-)
11	AES BUS A 1 (B+)	32	Ground	53	AES BUS B 2 (B+)
12	Ground	33	Ground	54	Ground
13	AES BUS B 3 (B-)	34	Ground	55	Reserved for future use
14	AES BUS B 3 (B+)	35	Ground	56	Reserved for future use
15	Ground	36	Ground	57	Ground
16	AES BUS B 1 (B-)	37	Ground	58	Reserved for future use
17	AES BUS B 1 (B+)	38	Ground	59	Reserved for future use
18	Ground	39	Ground	60	Ground

Table 2-4 MKA-3901 AES Input Connector Pinouts *(Continued)*
This information is for use when it is necessary to wire directly to the AES input connector. If you are using a ICONM-BO-VAC or ICONM-BO-VAB breakout module, this information is not required.



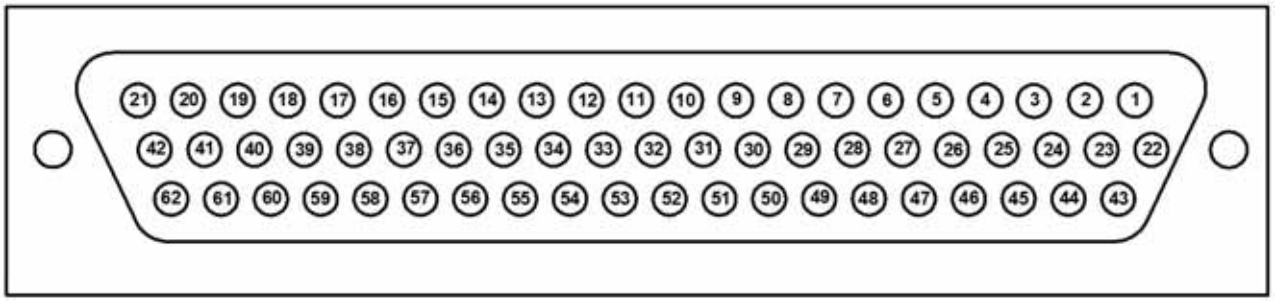
Pin	Function	Pin	Function	Pin	Function
19	Reserved for future use	40	Ground	61	Reserved for future use
20	Reserved for future use	41	Ground	62	Reserved for future use
21	Ground	42	Ground		
For balanced data, use B+ and B-. For unbalanced (coax), use B+ for the signal and connect B- to ground (shield). To use the coax, the C version of the card must be purchased.					

Table 2-5 MKA-3901 AES Output Connector Pinouts
This information is for use when it is necessary to wire directly to the AES output connector. If you are using the ICONM-BO-VAC or ICONM-BO-VAB breakout module, this information is not required.



Pin	Function	Pin	Function	Pin	Function
1	Reserved for future use	22	Ground	43	Reserved for future use
2	Reserved for future use	23	N/C	44	Reserved for future use
3	Ground	24	Ground	45	Ground
4	AES Pgm 3 (B+)	25	Ground	46	AES Pgm 2 (B+)
5	AES Pgm 3 (B-)	26	AES Pgm 4 (B+)	47	AES Pgm 2 (B-)
6	Ground	27	AES Pgm 4 (B-)	48	Ground
7	AES Pst 1 (B+)	28	Ground	49	AES Pst 2 (B+)
8	AES Pst 1 (B-)	29	AES Pgm 1 (B+)	50	AES Pst 2 (B-)
9	Ground	30	AES Pgm 1 (B-)	51	Ground
10	AES Pst 3 (B+)	31	Ground	52	AES Pst 4 (B+)
11	AES Pst 3 (B-)	32	AES Clean 2 (B+)	53	AES Pst 4 (B-)
12	Ground	33	AES Clean 2 (B-)	54	Ground

Table 2-5 MKA-3901 AES Output Connector Pinouts *(Continued)*
This information is for use when it is necessary to wire directly to the AES output connector. If you are using the ICONM-BO-VAC or ICONM-BO-VAB breakout module, this information is not required.



Pin	Function	Pin	Function	Pin	Function
1	Reserved for future use	22	Ground	43	Reserved for future use
13	AES Clean 1 (B+)	34	Ground	55	AES Clean 4 (B+)
14	AES Clean 1 (B-)	35	AES Clean 3 (B+)	56	AES Clean 4 (B-)
15	Ground	36	AES Clean 3 (B-)	57	Ground
16	AES Mon 1 (B+)	37	Ground	58	AES Mon 2 (B+)
17	AES Mon 1 (B-)	38	Ground	59	AES Mon 2 (B-)
18	Ground	39	Ground	60	Ground
19	AES Mon 3 (B+)	40	Ground	61	AES Mon 4 (B+)
20	AES Mon 3 (B-)	41	Ground	62	AES Mon 4 (B-)
21	Ground	42	Ground		
For balanced data, use B+ and B-. For unbalanced (coax), use B+ for the signal and connect B- to ground (shield). To use the coax, the C version of the card must be purchased.					

Installing Breakout Modules

There are three breakout modules available in the IconMaster system. **Table 2-6** shows the functionality of each of the breakout modules.

Table 2-6 Breakout Module Packages

Breakout Back Module Name	Video Module	Audio Module	Connecting Cables
ICONM-BO-V video breakout module (see page 32)	RS-232 and RS-422; BNCs for audio over and video relay bypass	Not applicable	■ MKE breakout cable (165-000242-00)
ICONM-BO-VAB balanced audio breakout module (see page 41)	RS-232 and RS-422; BNCs for audio over and video relay bypass	Screw terminals for discrete audio in and out	■ MKA breakout cable (165-000243-00) x2 ■ MKE breakout cable (165-000242-00)
ICONM-BO-VAC coaxial audio breakout module (see page 42)	RS-232 and RS-422; BNCs for audio over and video relay bypass	BNC connections for discrete audio in and out	■ MKA breakout cable (165-000243-00) x2 ■ MKE breakout cable (165-000242-00)

ICONM-BO-V Video Breakout Module

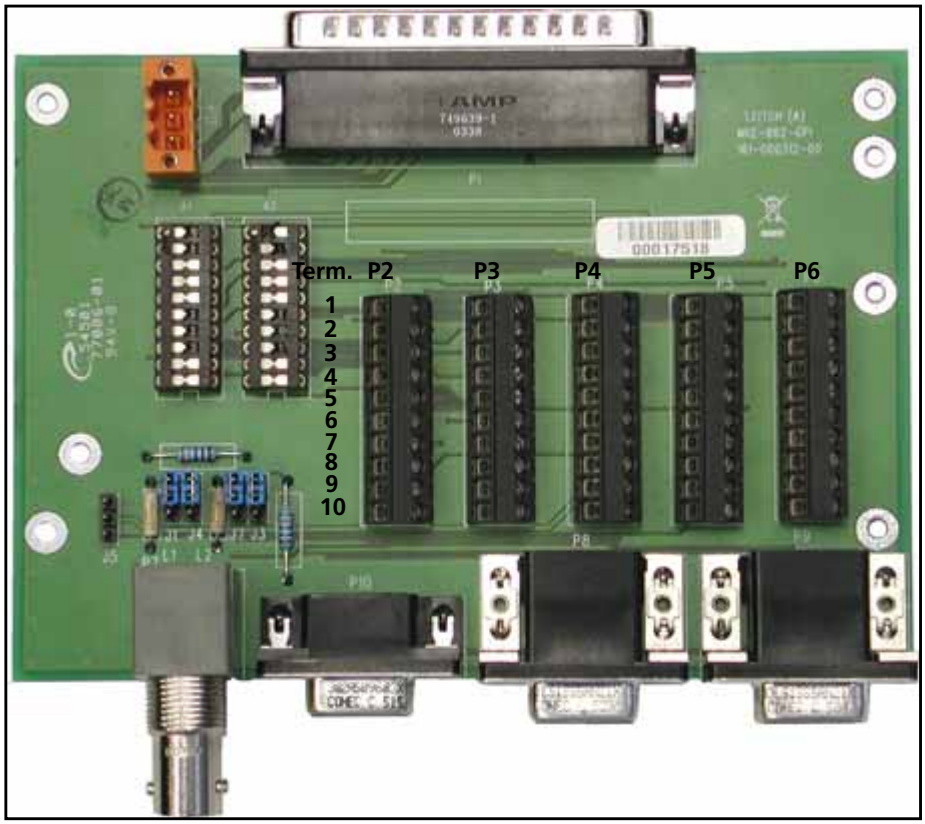


Figure 2-27 ICONM-BO-V Breakout Module

The ICONM-BO-V (**Figure 2-27**) is the breakout module for the MKE-3901 video module. The module converts the 62-pin **Multi Function I/O** connector of the MKE-3901 to separate screw, BNC, and DB-9 connectors. **Figure 2-28** on page 34 shows how the GPIs and GPOs (GPI outputs) are connected.

For information on the jumpers and jumper packs used on the ICONM-BO-V module, see page 36.

Screw Connectors

Figure 2-27 shows the screw-type connectors on the ICONM-BO-V breakout module. Each row of screw terminals (**P2** to **P6**) is described in **Table 2-7**.

Table 2-7 ICONM-BO-V Screw Terminals

Terminal	P2	P3	P4	P5	P6
1	GPI 8	MKE A/O 1 +	GPO 6	GPI 17	GPI 9
2	GPI 7	MKE A/O 1 -	GPO 5	GPI 18	GPI 10
3	GPI 6	GND	GPO 4	GPO 8	GPI 11
4	GPI 5	MKE A/O 2 +	GPO 3	GPO 9	GPI 12
5	GPI 4	MKE A/O 2 -	GPO 2	GPO 10	GPI 13
6	GPI 3	MGI TEMP SENS +	GPO 1	GPO 11	GPI 14
7	GPI 2	MGI TEMP SENS -	Bypass relay control	GPO 12	GPI 15
8	GPI 1	MGI LTC +	+5 to MKE Relay	GPO 13	GPI 16
9	GPO 7	MGI LTC-	+5 to MKA Breakout	-VE to MKE CTRL	GND
10	GND	GND	+5 from MKE	-VE to MKA CTRL	GND

Bypass Relay Control

- Connect P4, Pins 8, 9, and 10 together. This supplies the +5V from the MKE-3901 module to the emergency relays on the video breakout module and the audio breakout modules.
- Connect P5, Pins 9 and 10 to P4, Pin 7.
- To externally control the bypass relays, disconnect P4, pin 7 from P5 pin 9 and P5 pin 10.
- To set bypass relays to BYPASS mode (emergency inputs routed to PGM outputs), leave P5 pin 9 and P5 pin 10 open (no connections).
- To set bypass relays to OPERATE mode (IconMaster PGM to PGM outputs), connect P5 pin 9 and P5 pin 10 to GND (P6 pin 9 or P6 pin 10).

GPI/GPO Connections

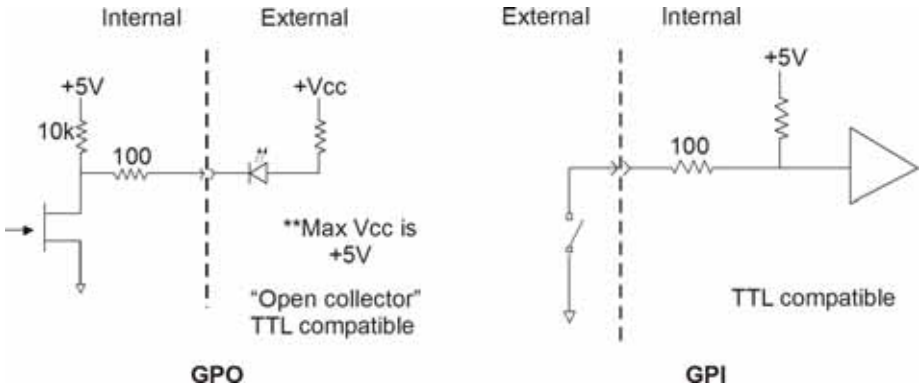


Figure 2-28 GPI and GPO (GPI Out) Connections

BNC Connectors

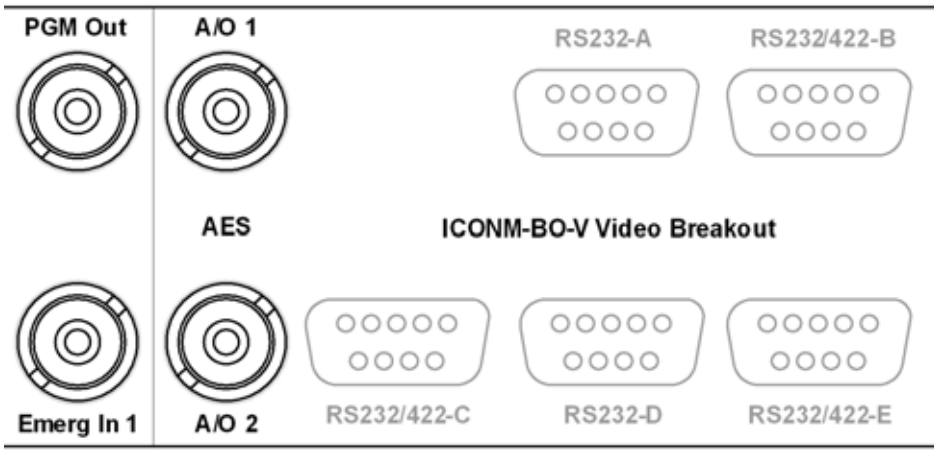


Figure 2-29 ICONM-BO-V BNC Connectors

Jumpers for AES Audio Over Impedance

The ICONM-BO-V video breakout module includes four jumpers (**J1**, **J2**, **J3**, and **J4**), which are used to set the impedance of **AES Audio-Over 1** and **Audio-Over 2**. The orientation of the jumper pins in **Figure 2-30** matches the way you view them as you read the "J" labelling on the board.

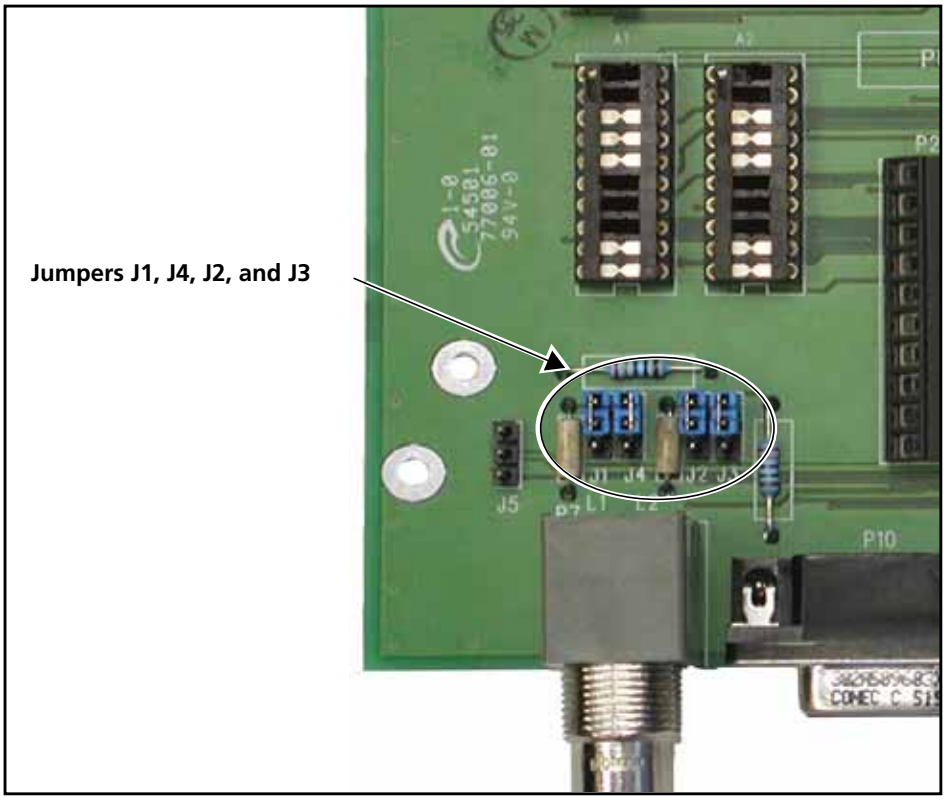


Figure 2-30 Jumpers on ICONM-BO-V (for BNC Connectors)

To set the individual jumpers, follow these steps:

1 Move jumpers **J1** and **J4** to set the A/O 1 (top BNC connector) to either **Unbalanced** or **Balanced** (see **Figure 2-31**).

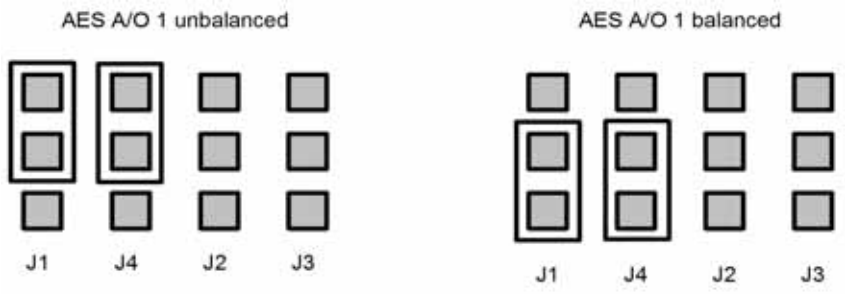


Figure 2-31 A/O 1 Jumpers

2 Move Jumpers **J2** and **J3** to set A/O 2 (bottom BNC connector) to either **Unbalanced** or **Balanced** (see **Figure 2-32**).

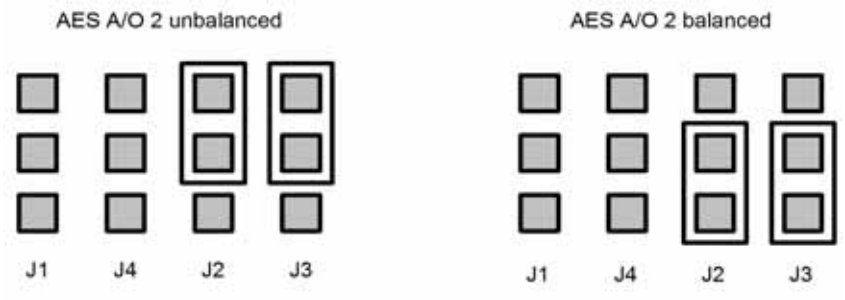


Figure 2-32 A/O 2 Jumpers

Bypass Relay Jumper (HD or Multiformat Operation)

For HD or multi-format operation, jumper **J10** should be left in the default position, connecting pins 1 to 2. When a system is configured for SD, jumper **J10** should connect pins 2 to 3. See **Figure 2-33** on page 36 for relay bypass jumper location and settings.

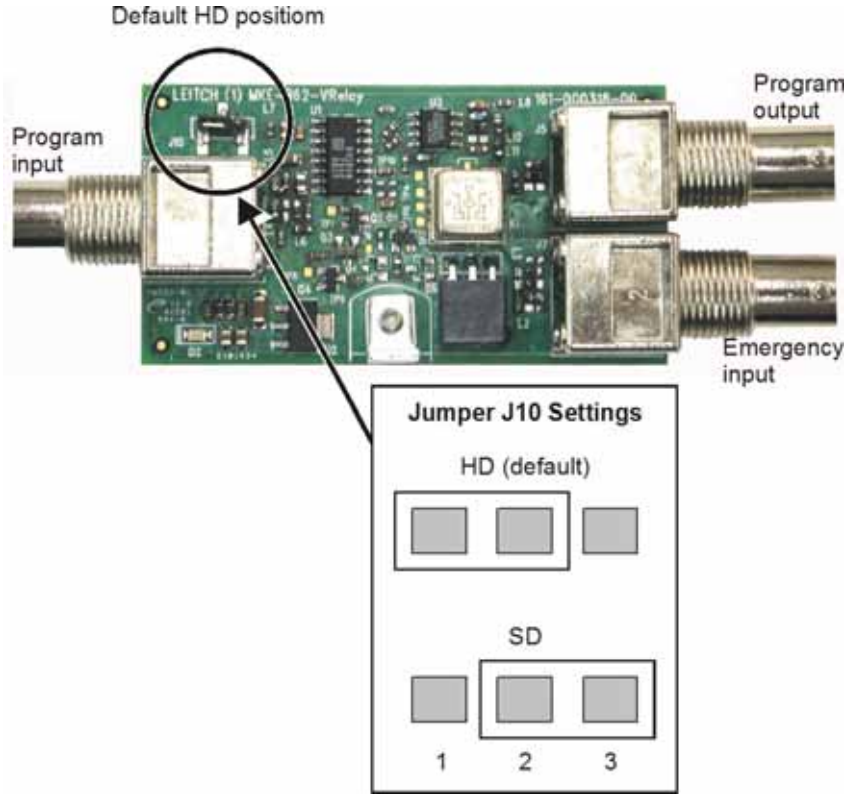


Figure 2-33 Relay Bypass Jumper J10

DB-9 Connectors

Note: *Jumpers **J20** and **J22** on the MKE-3901 must be set to **Balanced** when the video breakout module is used.*
*Jumper **J17** on the MKE-3901 must be set to the same standard as jumper pack **A2**. For more information see **Figure 2-34** on page 37 and **Table 2-9** on page 39.*
*Jumper **J18** on the MKE-3901 must be set to the same standard as jumper pack **A1**. For more information see **Figure 2-34** on page 37 and **Table 2-9** on page 39*

Table 2-8 on page 38 describes the pinouts for the DB-9 connectors, and **Table 2-9** on page 39 describes the use of the DB-9 serial connectors.

The ICONM-BO-V video breakout module includes two jumper packs (**A1** and **A2**), which are used for setting the serial port standard (RS-232 or RS-422). The orientation of the jumper pins in **Figure 2-31** and **Figure 2-32** matches the way you view them as you read the "J" labelling on the board.

To set the jumper packs, follow these steps:

1 Locate jumper packs **A1** and **A2** on the ICONM-BO-V module, as shown in **Figure 2-34**. **Figure 2-34** shows both serial ports in RS-422.

2 If necessary, extract the jumper packs, and then rotate them to match the RS-232 or RS-422 setting as required. **Figure 2-35** shows RS-232 and RS-422 orientation.

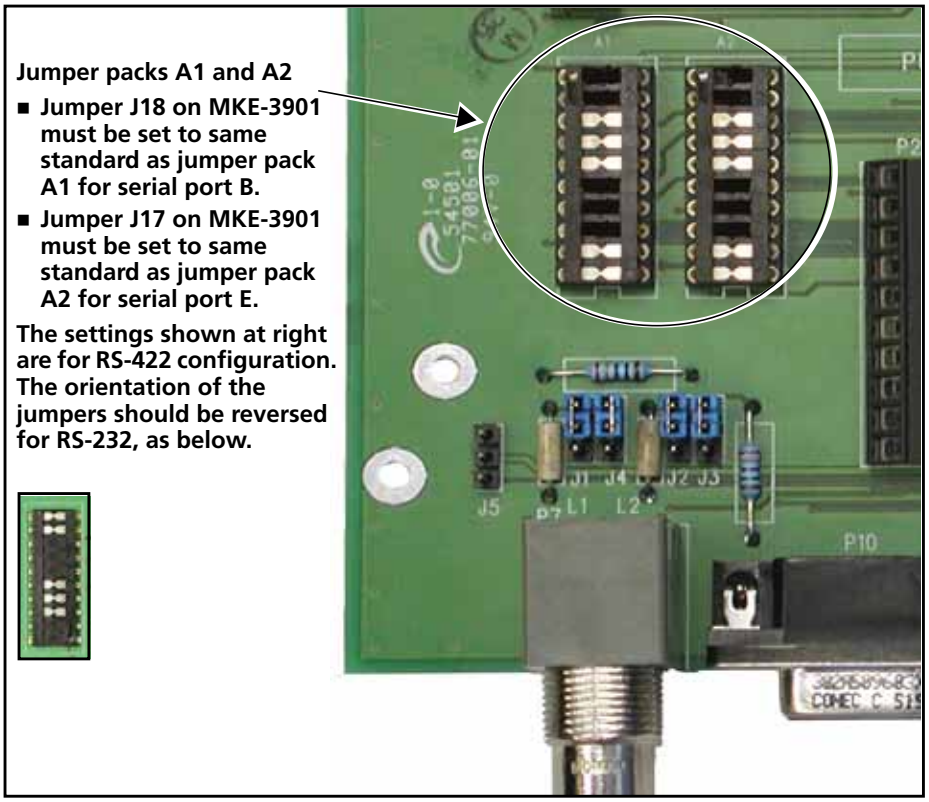
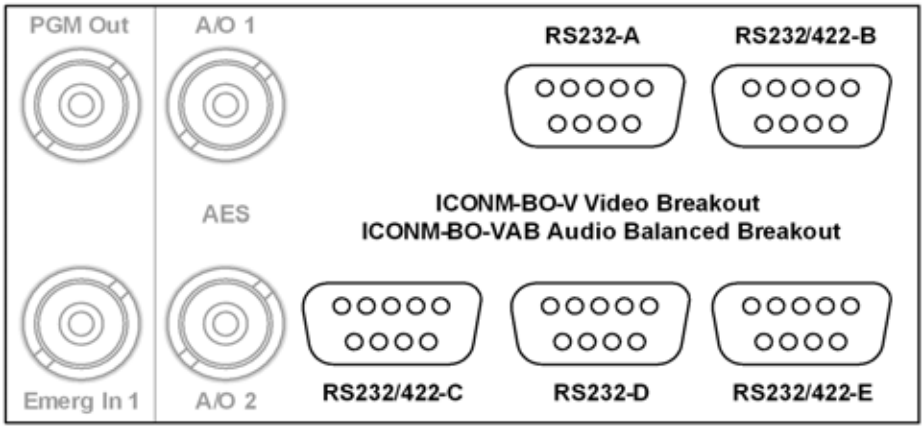

Jumper packs A1 and A2
■ Jumper J18 on MKE-3901 must be set to same standard as jumper pack A1 for serial port B.
■ Jumper J17 on MKE-3901 must be set to same standard as jumper pack A2 for serial port E.
The settings shown at right are for RS-422 configuration. The orientation of the jumpers should be reversed for RS-232, as below.
A1
A2
P1
P2
J1
J4
J2
J3
J5
L1
L2
P10

Figure 2-34 Jumper Packs on ICONM-BO-V (in RS-422 Mode)

Note: *Each serial connector (RS-232 and RS-422) has the following settings:*
- *38400 baud rate*
- *8 data bits*
- *No parity*
- *1 stop bit*
- *No flow control*

DB-9 (RS-232 and RS-422) Connectors

Table 2-8 ICONM-BO-V DB-9 Pinouts



Breakout DB9 Pin	Port A RS232	Port B, Port E RS232 / RS422 Selectable		Port C RS422	Port D RS232
		RS-232 Connection	RS-422 Connection		
1		Frame Ground	Frame Ground	Frame Ground	
2	TxD	RxD (Data received by IconMaster)	Ta Tx- (Data sent by IconMaster)	Ta Tx-	RxD
3	RxD	TxD (Data sent by IconMaster)	Rb Rx+ (Data received by IconMaster)	Rb Rx+	TxD
4		DTR (Data Terminal Ready) *	Rc (Receiver Common or Shield)		
5	GND	Ground	Ground		GND
6		DSR (Data Serial Ready) *	Tc (Transmit Common or Shield)		
7		RTS (Request to Send) **	Tb Tx+ (Data sent by IconMaster)	Tb Tx+	
8		CTS (Clear to Send) **	Ra Rx- (Data received by IconMaster)	Ra Rx-	
9		Frame Ground	Frame Ground	Frame Ground	

* DB9 Pins 4 (DTR) and 6 (DSR) are connected internally to GND.
** DB9 Pins 7 (RTS) and 8 (CTS) are not used by IconMaster.

Note: RS-232 pinouts of port A are opposite to those of ports B, D, and E. The use of straight-through versus null-modem cables must be carefully considered.

Table 2-9 shows default settings for the DB-9 connectors. These connector assignments can be changed via the ICU S**erial Port Configuration** dialog box. For more information, see .

Table 2-9 DB-9 (RS-232 and RS-422) Connector Usage

Connector	Use	Baud Rate	Notes
RS-232-A	MKE-3901 machine control	38400	See page 107 for more machine control information
RS-232/422-B	MKE-3901 automation, router, multiviewer, or machine control	38400	Jumper **J18** on the MKE-3901 must be set to the required standard and jumper pack **A1** on the breakout module must be set to the same standard as **J18** (see page 20 for more jumper information) See page 109 and page 150 for more automation control information
RS-232/422-C	Reserved	38400	Reserved for future use
RS-232-D	MGI-3903 EAS	9600	Connect the EAS receiver for emergency notification messages
RS-232/422-E	MKE-3901 automation, router, multiviewer, or machine control	38400	Jumper **J17** on the MKE-3901 must be set to the required standard and jumper pack **A2** on the breakout module must be set to the same standard as **J17** (see page 20 for more jumper information)

Common DB-9 Cable Arrangements Examples

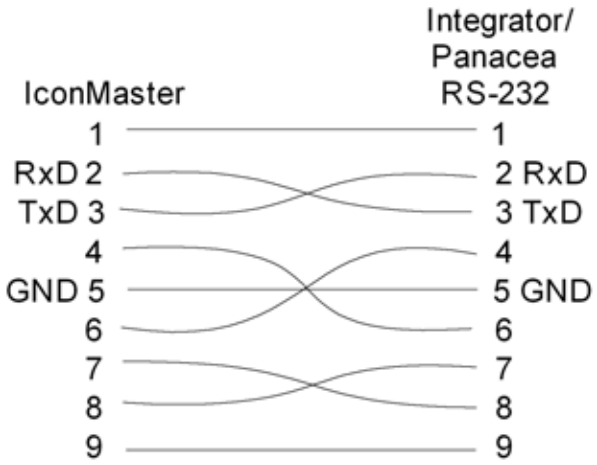


Figure 2-35 RS-232 IconMaster Port E to Integrator or Panacea Pin Connections

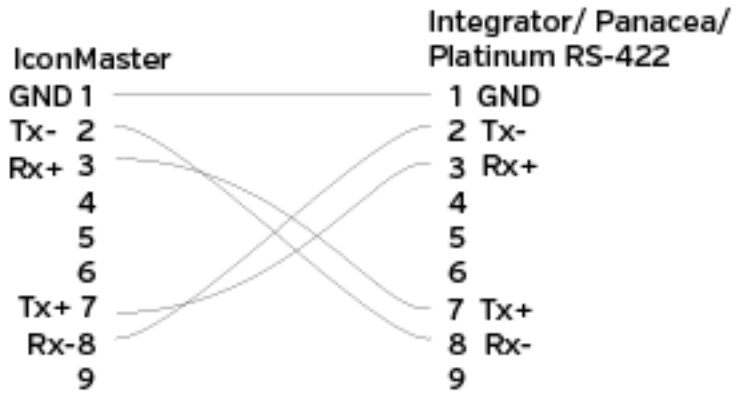


Figure 2-36 RS-422 IconMaster Port E to Integrator, Panacea, or Platinum Pin Connections

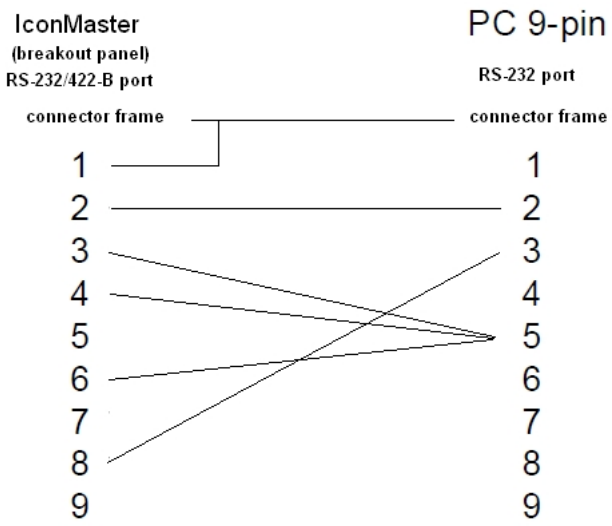


Figure 2-37 RS-422 IconMaster Port B/E to Common PC Serial Port Pin Connections

Note: *If re-assigned to port A, use a straight-through connection instead of this null-modem connection.*

Figure 2-38 RS-232 IconMaster Port A to SPT Pin Connections

Note: *If re-assigned to port B or port E, use a null-modem connection instead of this straight-through connection.*

ICONM-BO-VAB Balanced Audio Module

The ICONM-BO-VAB is a breakout module for the MKA-3901-B audio module. It also includes the video functionality of the ICONM-BO-V module. The audio portion of the module converts the 62-pin AES Input and AES output connectors of the MKA-3901-B to screw terminal connections.

Figure 2-39 shows the screw-type connectors on the audio breakout module. Each row of screw terminals (**P4** to **P15**) is described in **Table 2-10**.

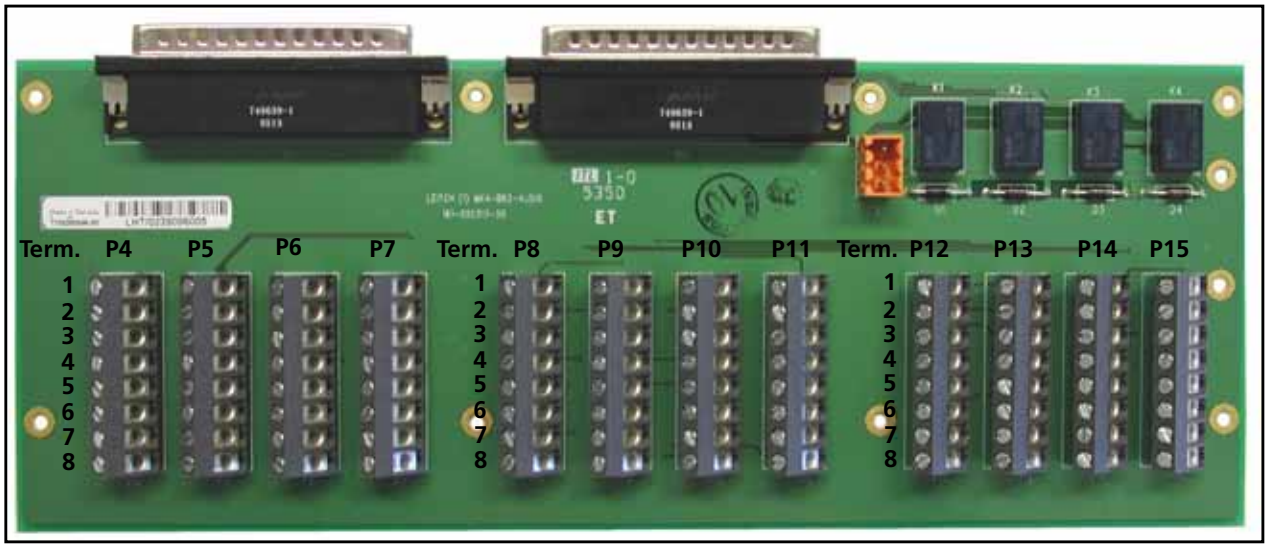


Figure 2-39 ICONM-BO-VAB Breakout Module

Table 2-10 ICONM-BO-VAB Breakout Module Screw Terminals

Terminal No.	**Terminal Type/Function**			
	P4 Inputs	**P5 Inputs**	**P6 Inputs**	**P7 Inputs**
1	BUS B1 +	BUS A4 +	BUS A1 +	SPARE 1 +
2	BUS B1 -	BUS A4 -	BUS A1 -	SPARE 1 -
3	BUS B1 GND	BUS A4 GND	BUS A1 GND	SPARE 1 GND
4	BUS B3 +	BUS B2 +	BUS A2 +	SPARE 2 +
5	BUS B3 -	BUS B2 -	BUS A2 -	SPARE 2 -
6	BUS B3 GND	BUS B4/B2 GND	BUS A2/A3 GND	SPARE 2 GND
7	NC	BUS B4 +	BUS A3 +	NC
8	NC	BUS B4 -	BUS A3 -	NC
	P8 Outputs	**P9 Outputs**	**P10 Outputs**	**P11 Outputs**
1	MON 2 +	CLEAN 3 +	PST 4 +	PST 1 +
2	MON 2 -	CLEAN 3 -	PST 4 -	PST 1 -
3	MON 2 GND	CLEAN 3 GND	PST 4 GND	PST 1 GND
4	MON 3 +	CLEAN 4 +	CLEAN 1 +	PST 2 +
5	MON 3 -	CLEAN 4 -	CLEAN 1 -	PST 2 -
6	MON 3/4 GND	CLEAN 4/MON 1 GND	CLEAN 1/2 GND	PST 2/3 GND

Table 2-10 ICONM-BO-VAB Breakout Module Screw Terminals *(Continued)*

Terminal No.	**Terminal Type/Function**			
7	MON 4 +	MON 1 +	CLEAN 2 +	PST 3 +
8	MON 4 -	MON 1 -	CLEAN 2 -	PST 3 -
	P12 Inputs	**P13 Outputs**	**P14 Outputs**	**P15 Inputs**
1	NC	PGM 1 +	PGM 3 +	NC
2	NC	PGM 1 GND	PGM 3 GND	NC
3	EMER PGM 1 +	PGM 1 -	PGM 3 -	EMER PGM 3 +
4	EMER PGM 1 -	PGM 2+	PGM 4 +	EMER PGM 3 -
5	EMER PGM GND	PGM 2 GND	PGM 4 GND	EMER PGM 3 GND
6	EMER PGM 2+	PGM 2 -	PGM 4 -	EMER PGM 4 +
7	EMER PGM 2-	NC	NC	EMER PGM 4 -
8	EMER PGM 2 GND	NC	NC	EMER PGM 4 GND

ICONM-BO-VAC Coaxial Audio Module

The ICONM-BO-VAC is a breakout module for the MKA-3901-B audio module. It includes an ICONM-BO-V module with an audio portion. The audio portion of the module converts the 62-pin AES input and AES output connectors of the MKA-3901-B to coaxial connections. Each connector is labelled in **Figure 2-41**.

Figure 2-42 on page 43 shows the four BNC connectors on the audio breakout module for connecting emergency inputs. From left to right, the connectors are for **AES4** to **AES 1**.

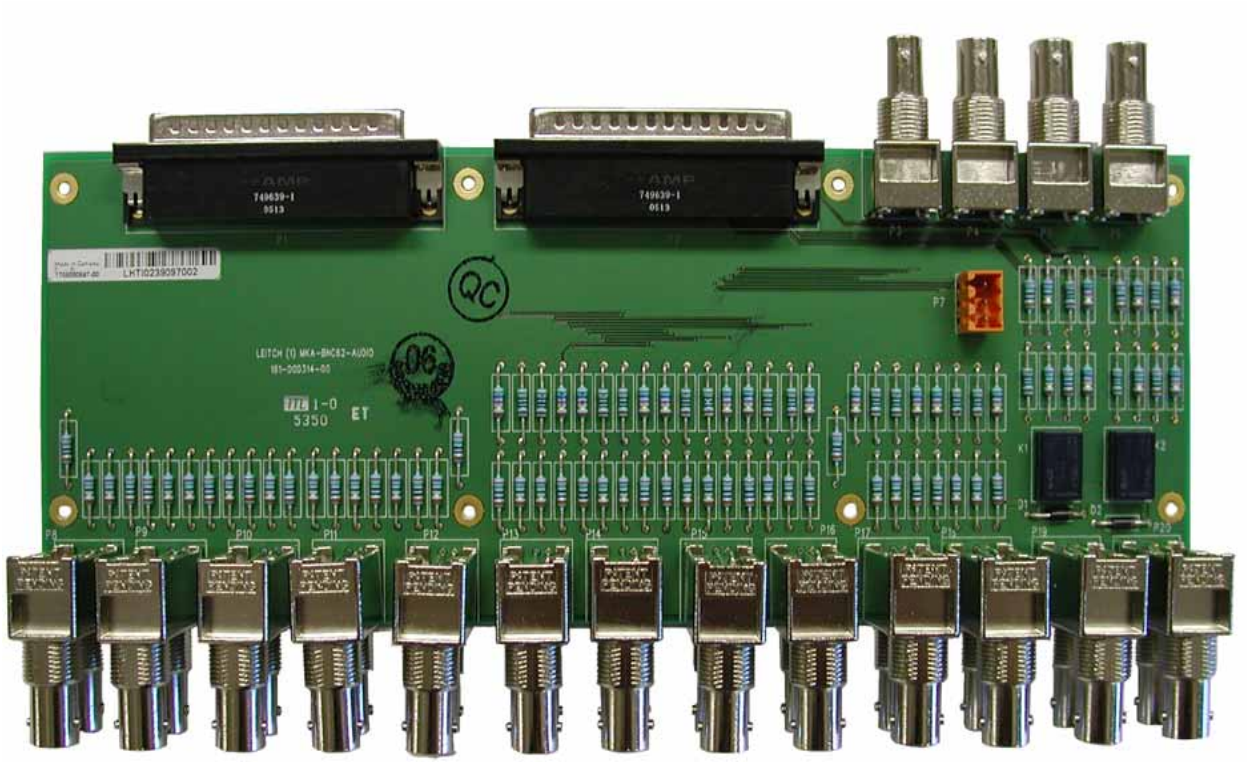


Figure 2-40 ICONM-BO-VAC Breakout Module

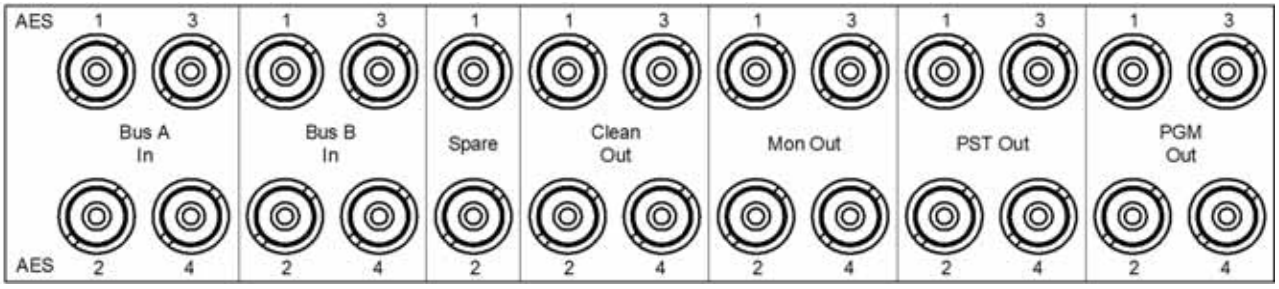


Figure 2-41 Coaxial Connector Labels

Figure 2-42 Emergency BNC Audio Inputs (AES4 to AES 1, From Left to Right)

Video Relay Bypass Module

The video relay bypass is a separate module that is connected to the video breakout module.

Connections with ICONM-BO-V Module

When using the ICONM-BO-V module, connect **PGM Output** on the MKE-3901-BM to **PGM IN** on the video relay bypass module using a coax cable, as shown in **Figure 2-43**.

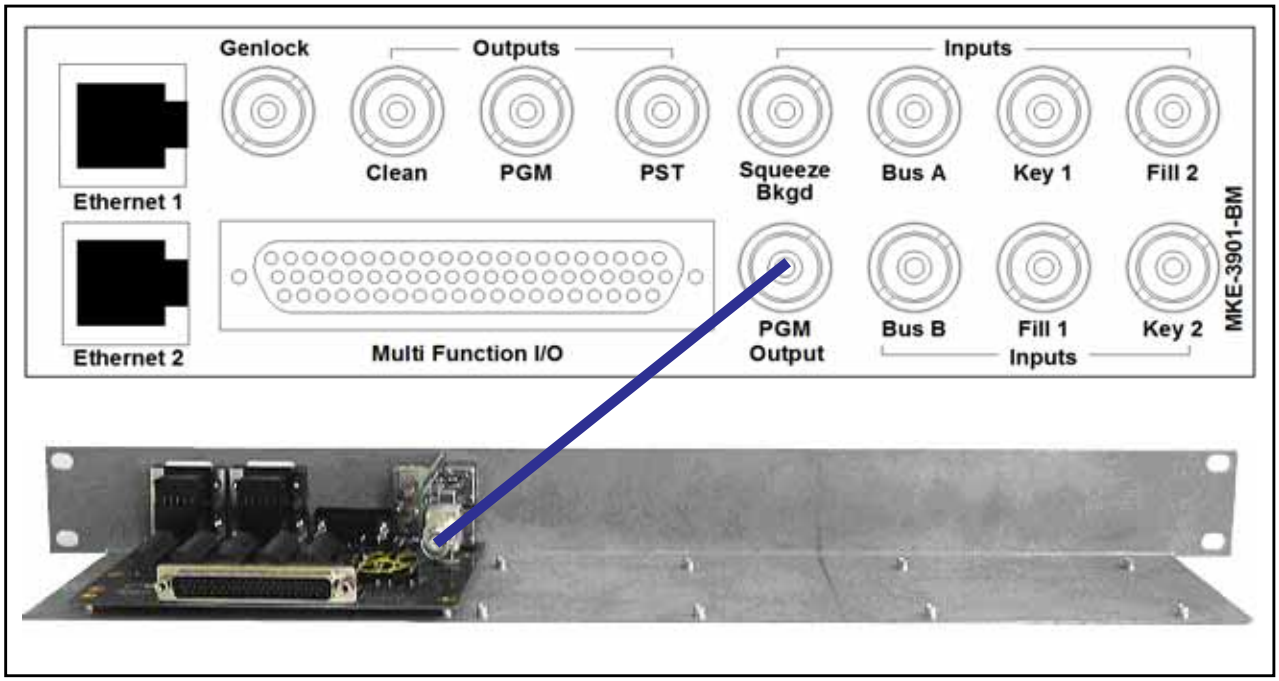


Figure 2-43 MKE-3901 Connections to the Video Relay Bypass Using the ICONM-BO-V

Connections with ICONM-BO-VAB or ICONM-BO-VAC Module

When using the ICONM-BO-VAB or ICONM-BO-VAC module, connect **PGM Output** on the MKE-3901-BM to the **PGM IN** on the Video Bypass module using the provided coax cable, as shown in **Figure 2-44**.

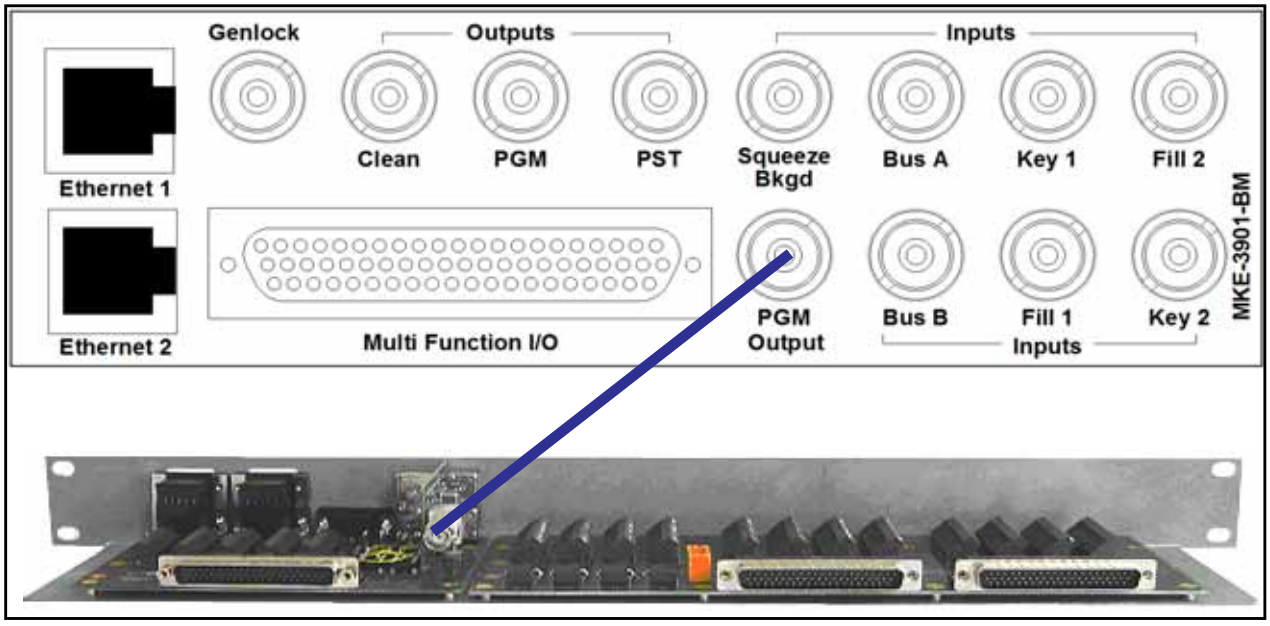


Figure 2-44 MKE-3901 Connections to the Video Relay Bypass Using the ICONM-BO-VAB

Connecting Optional GPI Input and Output Devices

IconMaster frames are designed to work with JLCooper Electronics eBOX Quad Serial to Ethernet Interface. The eBOX is a general purpose interface box that converts serial communication ports, GPI inputs, and GPI outputs and outputs to 10/100BaseT Ethernet. Using eBOX, you can control up to 66 GPI input and 61 GPI output devices. IconMaster communicates with eBOX through the IconMaster Ethernet connection.

Connecting the eBOX to the IconMaster

1. Connect an Ethernet crossover cable between the Ethernet connector on a PC to the Ethernet connector on the eBOX. (If the PC is connected to a network, remove it from the network before connecting it to the eBOX.)
2. Set the eBOX DIP switch 8 to ON (to allow you to access the JLCooper web interface).
3. Access **Network Connections** from the Windows Control Panel box (**Start > Control Panel > Network Connections**).
4. Select **Local Area Network**. The **Local Area Network Connections** box will appear.
5. Select **TCP/IP** as the Internet procotol. The **Internet Protocol (TCP/IP) Properties** box will appear. Use the following IP addresses:
   - IP address: 192.168.254.100
   - Subnet mask: 255.255.255.0
   - Default gateway: IP address: 192.168.254.102
6. Using Microsoft Internet Explorer 6 as your web browser, access the JLCooper electronics eBOX configuration web page, and then configure the eBOX to **Server** mode, as described in the *eBOX Ethernet to Serial & GPI Interface Users Manual.* See **Table 2-11** and **Figure 2-45** on page 47 for settings information.

Note: *Internet Explorer 6 is the only web browser that can be used to configure and program the eBOX.*

Table 2-11 eBOX to IconMaster Configuration Settings

Configuration Item	Setting
Primary Setup Information	
Device IP Address	Site-specific
Subnet Mask	Site-specific
Gateway Address	Site-specific
Port number	5003
Client Mode Ony Information - Not Used	
Password Protection - Not Used	
Serial Port Setup Parameters	
Baud Rate (Serial 1-4)	38400
Parity (Serial 1-4)	On
Parity Type (serial 1-4)	Even
Serial Time Out	Per default
Maximum Buffer Size	Per default

7. Turn DIP switch 8 to OFF, and then unplug the Ethernet connection between the PC and the eBOX. If necessary, reconnect the reconnect the PC to its network.
8. Move the eBOX to its final destination, and then connect the eBOX to the Ethernet network.
9. Make all other desired GPI/GPO and serial connections to the eBOX connections.

Note: *The eBOX needs to be properly grounded to ensure proper operation of the GPI and GPO.*

10. Set the buttons on the back of the eBOX to the correct RS-232 or RS-422 position, and set Host mode or Machine mode (this sets the states of pins 2 and 3 for TX and RX).

Note: *DIP switches 1, 2, and 3 must be set to ON and DIP switch 7 must be set to OFF for the eBOX to run in the web page-defined IP address mode.*

11. Using the IconMaster Configuration Utility (ICU), configure the eBOX settings as applicable, in this order:
    - Enable External I/O Module (page 164)
    - External Interface connections (page 164)
    - Machine control, GPI/GPO (page 150, page 153, page 155)
    - Serial tally to tally system (page 166)
    - UMD configurations (page 169)

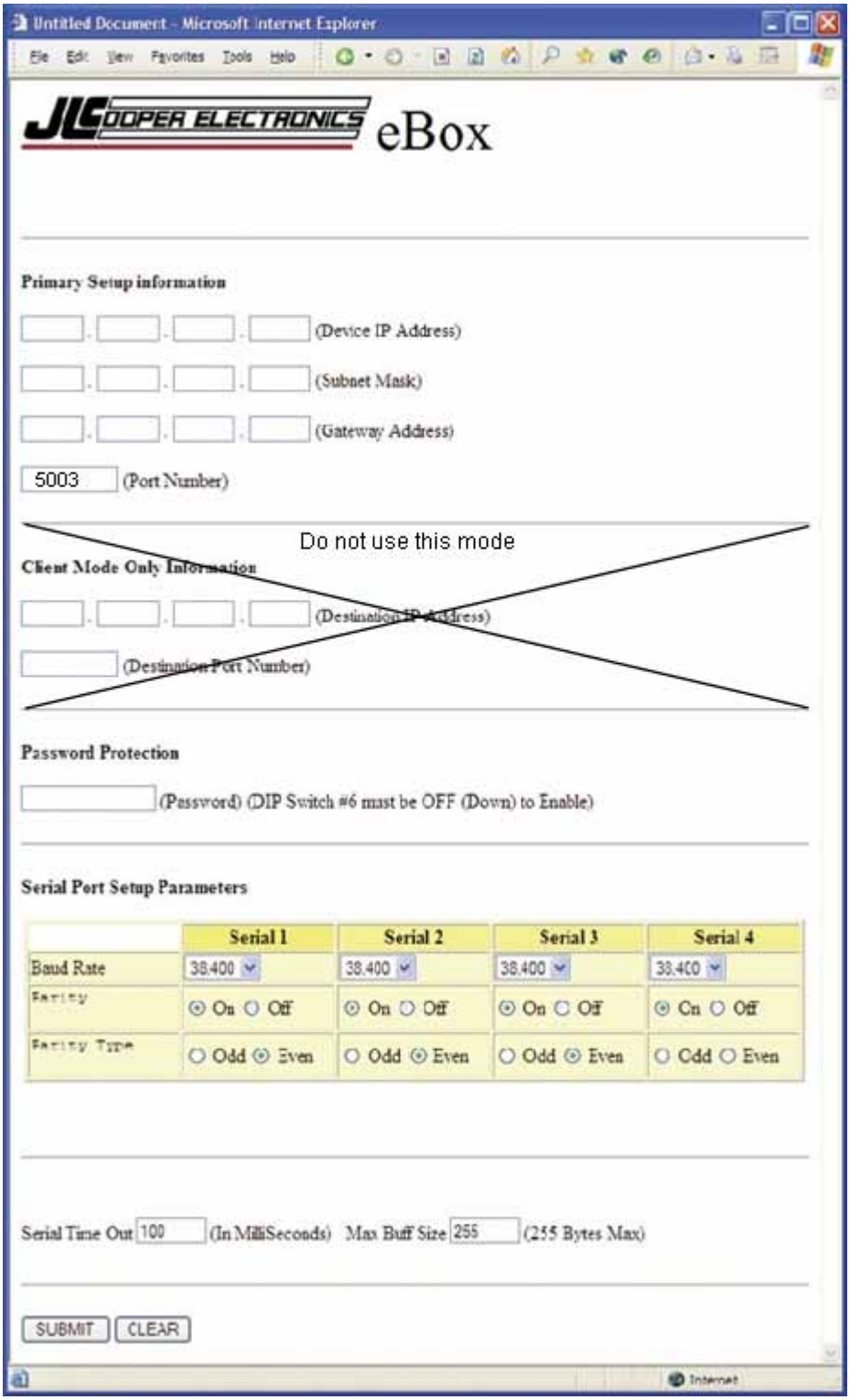

Untitled Document - Microsoft Internet Explorer
File Edit View Favorites Tools Help
JLCOOPER ELECTRONICS eBox
Primary Setup information
(Device IP Address)
(Subnet Mask)
(Gateway Address)
5003 (Port Number)
Do not use this mode
Client Mode Only Information
(Destination IP Address)
(Destination Port Number)
Password Protection
(Password) (DIP Switch #6 must be OFF (Down) to Enable)
Serial Port Setup Parameters
Serial 1 Serial 2 Serial 3 Serial 4
Baud Rate 38400 38400 38400 38400
Parity On Off On Off On Off On Off
Parity Type Odd Even Odd Even Odd Even Odd Even
Serial Time Out 100 (In MilliSeconds) Max Buff Size 255 (255 Bytes Max)
SUBMIT CLEAR
Internet

Figure 2-45 JLCooper EBox Settings for IconMaster

Customizing Pushbuttons

The IconMaster control panel uses pushbuttons that you can customize. *To customize a pushbutton, follow these steps:*

1. Remove the lens assembly by grasping the switch tightly and pulling the lens off the switch.

   Once the lens assembly is released from the switch, the lens and pushbutton can be separated.

2. Remove the appropriate text film from the "Optional Control Panel Labels" plastic sheet included in this manual.
3. Separate the lens and the pushbutton and then place the text film inside the lens cap.
4. After aligning the notches in the lens with the tabs in the pushbutton, join the pieces together.
5. Firmly press the lens assembly onto the plunger by applying pressure from the top to the bottom until both are snapped together.

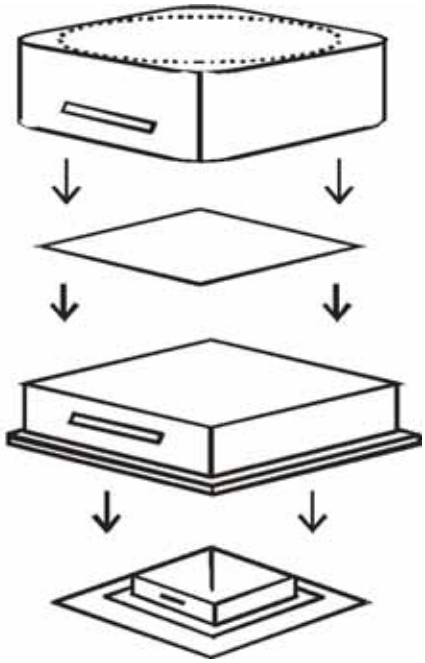


Figure 2-46 Removable Parts of a Pushbutton

Installing an Optional Fader Bar

When installed as an upgrade, the IconMaster fader bar must be inserted and mounted from underneath the main control panel after the existing front plastic bezel is removed. There are three general stages to the installation: removing the bezel, installing the fader bar assembly, and assembling the handle.

Disassembling the IconMaster

1. Disconnect the power supply.
2. Disconnect the Ethernet and serial connections from the IconMaster control panel as necessary.
3. If necessary, remove the IconMaster control panel from its desktop/tabletop location from its mounting rack.

Removing the Bezel

1. Turn the main control panel over on its face.
2. In the connector bay on the left side, remove the four screws that hold the fader bar access cover in place (see **Figure 2-47**).

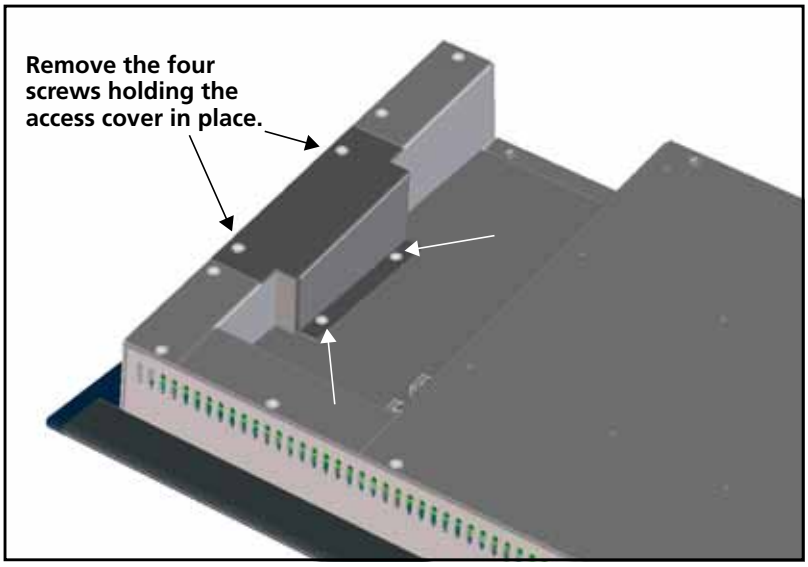


Figure 2-47 Removal of Access Cover

3. Inside the panel (as shown in **Figure 2-48** on page 50), remove the two screws that secure the existing plastic bezel, retaining the screws for future use.
4. Turn the panel over, and then lift off the existing plastic bezel.

Installing the Fader Bar Assembly

1. On the front of the panel, position the new fader bar bezel over the fader bar slot, ensuring that you align the two square holes with the up and down arrow LEDs.
2. Turn the panel back over to reveal its underside, and then, using the original bezel screws, secure the new fader bar bezel (see **Figure 2-48**).

CAUTION: Do not overtighten the fader bar mounting screws. A snug fit is sufficient.

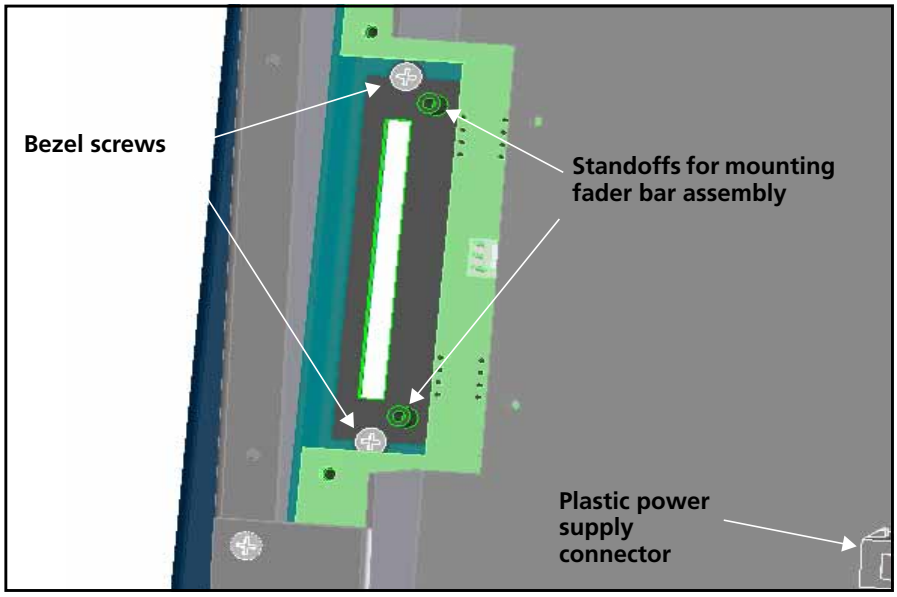


Figure 2-48 Securing the New Bezel

3 Slide the fader bar arm through the slot, so that the assembly fits over the two standoffs (see **Figure 2-49**).

4 Mount the fader bar assembly onto the standoffs using the two provided screws.

Ensure the connector cable side of the fader bar assembly is facing the shallow end of the control panel (nearest to the plastic power supply connector).

5 Remove the jumper located on the header next to the fader bar assembly.

6 Attach the fader cable to the header connector.

7 Reinstall the access cover, being careful to avoid pinching the cable.

CAUTION: The locking cable connector will only fit one way. Do not force the connector if it does not snap into place easily.

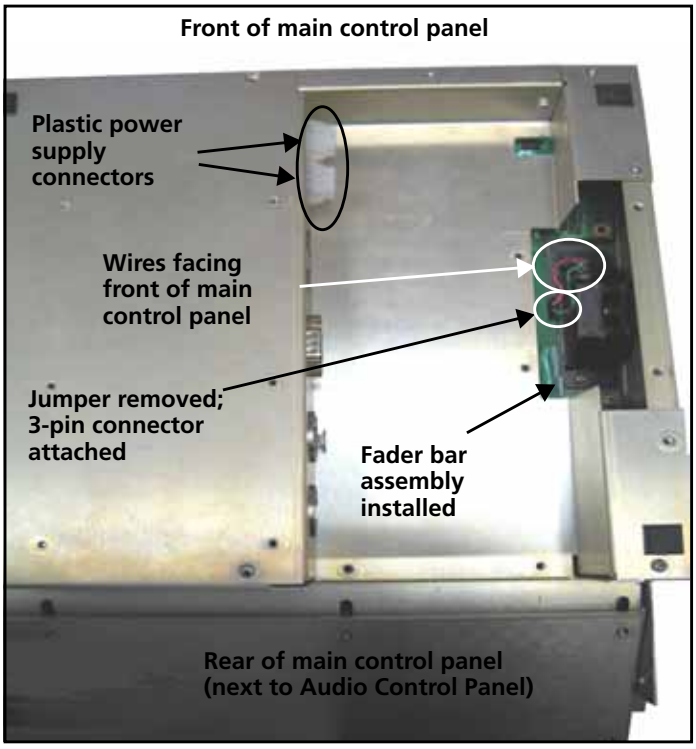

Front of main control panel
Plastic power supply connectors
Wires facing front of main control panel
Jumper removed; 3-pin connector attached
Fader bar assembly installed
Rear of main control panel (next to Audio Control Panel)

Figure 2-49 Fader Bar Installation and Connection

Assembling the Handle

1. Turn the control panel right side up.
2. Align the two opposing caps of the handle on the fader bar arm, and then insert the provided screw and nut.
3. Tighten the screw, and then snap on the two end caps.
4. Reinstall the IconMaster control panel into its desktop/tabletop or mounting rack location.
5. Reconnect any Ethernet and/or serial connectors.
6. Reconnect the power supply.

3 Module Configuration

Overview

This chapter describes the configuration and use of the MKE-3901, MKA-3901, and MGI-3903 modules in the IconMaster system.

The following topics are covered:

- ***Operator, All, and Setup Parameter Lists*** on page 54
- ***LEDs and Module Indicators*** on page 57

This chapter presupposes that you have a working knowledge of NEO card-edge configuration and have used it with other NEO modules. If not, please refer to the *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* and familiarize yourself with card-edge operation before you continue the configuration process.

Navigating the MKE-3901 Operator and All Lists

To navigate, and then view or change a parameter from the Operator and All Lists, follow these steps:

1. Open the front panel of the NEO frame.
2. Press any card-edge control to turn on the VFD screen.

   The message **MKE3901** appears. If a previous user has left the display at a different parameter name, repeatedly press the **Escape** button until the message **MKE3901** appears.

   After several seconds of inactivity, a scrolling message will appear, describing the purpose of the currently selected parameter.

3. Push the **Enter** button.

   The name of the first parameter option in the list appears.

4. Push the **Enter** button again to access the options for the parameter displayed on the VFD screen.

   OR

   Press the **Nav+/Nav-** switch down repeatedly to view other parameters, and then press **Enter** to access an item's parameter options.

5. Press the **Nav+/Nav-** switch up or down to scroll through the different selectable parameter options, and then press **Enter** to select the value you want.

OR

Press the **Nav+/Nav-** switch up or down to adjust the numeric parameter value, and then press **Enter**.

6 Close the front panel of the frame to ensure the cooling system continues to operate properly.

Operator, All, and Setup Parameter Lists

The MKE-3901 displays its parameters in an Operator List, All List, and Tree View. These parameters are visible at the card-edge of the module and in CCS software.

These lists include the following parameters:

Operator and All Lists

Items in gray are in the All List only.

Table 3-1 MKE-3901 Operator and All Lists

Card-Edge ID	Parameter Name	Function	User Range
Unit_Name	Unit Name	Displays the name of the device	String (MKE3901)
SW_Version	Software Version	Displays the version number of the currently installed software	String (none)
IP_Address	IP address	Changes the address of the IconMaster module on the network. Changing the IP address releases the IconMaster from panel control. To regain control of the panel, enter the new IP address into the panel's list of "reachable" machines	String (**192.168.100.252**)
SubnetMask	Subnet Mask	Changes the range of IP addresses that can communicate with this device	String (**255.255.0.0**)
Gateway	Gateway	Changes the network routing for the device	String (**0.0.0.0**)
OperStd	Operation Standard		String (**None**)
Lite_Mode	Lite Mode	Indicates whether the device is operating as a lite version of IconMaster; some features are disabled in this mode	String (**No**)
AutoHold	Automation Hold	Stops the IconMaster from responding to Automation commands	■ On ■ **Off**

Table 3-1 MKE-3901 Operator and All Lists *(Continued)*

Card-Edge ID	Parameter Name	Function	User Range
PgmBypass	Program Bypass	When activated, bypasses the program bus	■ On ■ **Off**
PST_Src	PST Source Selection	Selects the source for preset bus	String (**None**)
PGM_Src	PGM Source Selection	Selects the source for the program bus	String (**None**)
BKGD	BKGD	Activates the BKGD function, so that a background transition from the PST bus to the PGM bus will occur when you select Take or Preroll	■ On ■ **Off**
TAKE	TAKE	Triggers a take, causing the next transition to start immediately	■ On ■ **Off**
PREROLL	PREROLL	Triggers a preroll, activating a different piece of equipment to perform an event	■ On ■ **Off**
TransSpeed	Transition Speed	Sets the transition rate	String (**None**)
TransShape	Transition Shape	Selects the type of transition that will be performed	■ Cut-Fade ■ Fade-Cut ■ **Fade-Fade** ■ X-Fade
ATransShape	Audio Trans Shape	Selects the type of audio transition that will be performed	■ Cut-Fade ■ Fade-Cut ■ **Fade-Fade** ■ X-Fade
BreakawayMode	Breakaway Mode	When off, the audio and video transition at the same time; when this parameter is set to one of the other options, only that option will transition	■ Off ■ Video ■ Audio
Key1_OnNext	Key1 On Next Trans	Triggers the specified key on the next transition	■ On ■ **Off**
Key2_OnNext	Key2 On Next Trans		
Key3_OnNext	Key3 On Next Trans		
Key4_OnNext	Key4 On Next Trans		
Key5_OnNext	Key5 On Next Trans		
Key6_OnNext	Key6 On Next Trans		
Key1_OnAir	Key1 On Air	Triggers the specified key to air immediately	■ On ■ **Off**
Key2_OnAir	Key2 On Air		
Key3_OnAir	Key3 On Air		
Key4_OnAir	Key4 On Air		
Key5_OnAir	Key5 On Air		
Key6_OnAir	Key6 On Air		

Table 3-1 MKE-3901 Operator and All Lists *(Continued)*

Card-Edge ID	Parameter Name	Function	User Range
AO1_OnNext	AO1 On Next Trans	Triggers the specified audio over on the next transition	■ On ■ **Off**
AO2_OnNext	AO2 On Next Trans		
AO1_OnAir	AO1 On Air	Triggers the specified audio over to air immediately	■ On ■ **Off**
AO2_OnAir	AO2 On Air		
K3_LogoSel	Assign Logo to Key3	Selects the logo for the specified key	String (**None**)
K4_LogoSel	Assign Logo to Key4		
K5_LogoSel	Assign Logo to Key5		
K6_LogoSel	Assign Logo to Key6		
FTB	Fade To Black	Causes the video program outputs to immediately fade to black	■ On ■ **Off**
SIL	Silence	Causes the audio program outputs to immediately fade to silence	■ On ■ **Off**
S_PST_Present	PST Present Status	Indicates whether there is data on the Preset bus	■ Yes ■ **No**
S_PST_NonSync	PST NonSync Status	Indicates whether the Preset bus is synced correctly	■ Yes ■ **No**
S_PGM_Present	PGM Present Status	Indicates whether there is data on the Program bus	■ Yes ■ **No**
S_PGM_NonSync	PGM NonSync Status	Indicates whether the Program bus is synced correctly	■ Yes ■ **No**
S_K1_Present	Key1 Present Status	Indicates whether the specified key has been assigned	■ Yes ■ **No**
S_K1_NonSync	Key1 NonSync Status	Indicates whether the specified key is synced correctly	■ Yes ■ **No**
S_K2_Present	Key2 Present Status	Indicates whether the specified key has been assigned	■ Yes ■ **No**
S_K2_NonSync	Key2 NonSync Status	Indicates whether the specified key is synced correctly	■ Yes ■ **No**
S_REF_Present	Reference Present	Indicates whether reference signal is present	■ Yes ■ **No**
S_HW_Error	Hardware Error	Indicates a detected hardware malfunction	■ Yes ■ **No**
S_COMM_Error	Communication Error	Indicates a detected communication error	■ Yes ■ **No**
S_Warning_Msg	System Warning Msg	Indicates that the system has triggered a warning message	■ Yes ■ **No**
BreakawayStatus	Breakaway Status	Displays whether breakaway status is active	■ Yes ■ **No**

Setup Parameters

You can modify the SETUP parameters to configure the card-edge controls for your personal needs. The structure of the **Setup** menu is as follows (default settings are indicated by asterisks):

Nav Mode (Navigation Mode)
(Options: Oper List*, All List, Tree View)
SelPar Adj Mode (Selectable Parameter Adjust Mode)
(Options: Immediate, Delayed*)
Brws Mode (Browse Mode)
(Options: Param List, Param+Val*)
Scrl Mode (Scroll Mode)
(Options: Wrap*, Don't Wrap)
Disp Inten (Display Intensity)
(Options: 100%, 50%*, 25%, 12%)
Param Desc (Parameter Description)
(Options: Disabled, Enabled*)
About [RO]

See your *NEO FR-3901, FR-3903, and FR-3923 Mounting Frames Installation and Operation Manual* for more information on Setup items.

LEDs and Module Indicators

MKE-3901 LEDs and Module Indicators

Each MKE-3901 module has 8 card-edge LEDs and 4 module indicators. The module indicators include **Major Alarm** and **Minor Alarm**. These alarms are not currently in use in the IconMaster system.

Figure 3-1 illustrates the locations of the LEDs and standard module indicators on the MKE-3901 module. The meanings of the LEDs are described in **Table 3-2**. The meanings of the module indicators are described in **Table 3-3**.

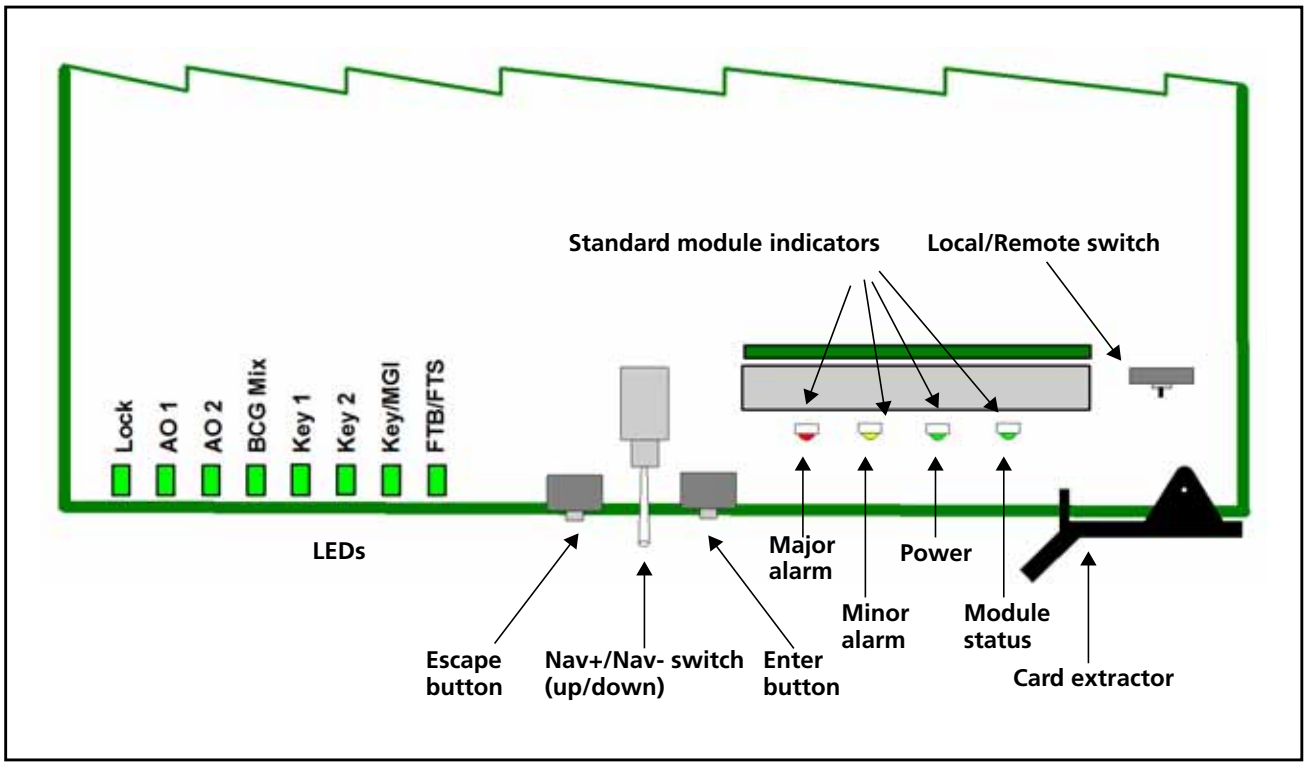


Figure 3-1 MKE-3901Card-Edge LEDs and Module Indicators

Table 3-2 MKE-3901 LED Descriptions

LED Number	LED Name	Color	Meaning (When Lit)
D1	Lock	Green	The module is locked to the reference signal.
D2	AO 1	Green	The Audio Over 1 function is on air.
D3	AO 2	Green	The Audio Over 2 function is on air.
D4	BCG Mix	Green	A video background transition is in progress.
D5	Key 1	Green	Key 1 is on air.
D6	Key 2	Green	Key 2 is on air.
D7	Key/MGI	Green	Key 3, 4, 5, or 6 is on air.
D8	FTB/FTS	Green	Video is black or audio is silent.

Table 3-3 MKE-3901 Module Indicator Descriptions

Module Indicator	Color	Meaning (When Lit)
Major Alarm	Red	(Not currently active)

Table 3-3 MKE-3901 Module Indicator Descriptions *(Continued)*

Module Indicator	Color	Meaning (When Lit)
Minor Alarm	Yellow	(Not currently active)
Power	Green	The module is receiving power.
Module Status	Green	The module is configured, loaded, and operational.

MGI-3903 LEDs and Module Indicators

The IconMaster logo inserter has 2 card-edge LEDs and 4 standard module indicators.

CAUTION

Never remove the compact flash card when the Compact Flash Card Active LED is on or flashing. Doing so may corrupt the files on the card.

The module generates visible alarm signals to alert users of failures or impending failures. These alarm signals can be found in the following locations:

- As red or yellow LEDs on the front module card-edge
- As red or yellow LEDs on the 3901AIC Alarm Interconnect Module or the 3901RES-E Resource Module (visible via light pipes through the NEO frame's front panel)
- As part of a list of activated alarms found in the MGI-3903 **Setup** menu

Figure 3-2 on page 59 illustrates the locations of the LEDs and standard module indicators on the MKE-3901 module. The meanings of the LEDs are described in **Table 3-4** on page 60. The meanings of the module indicators are described in **Table 3-5** on page 60.

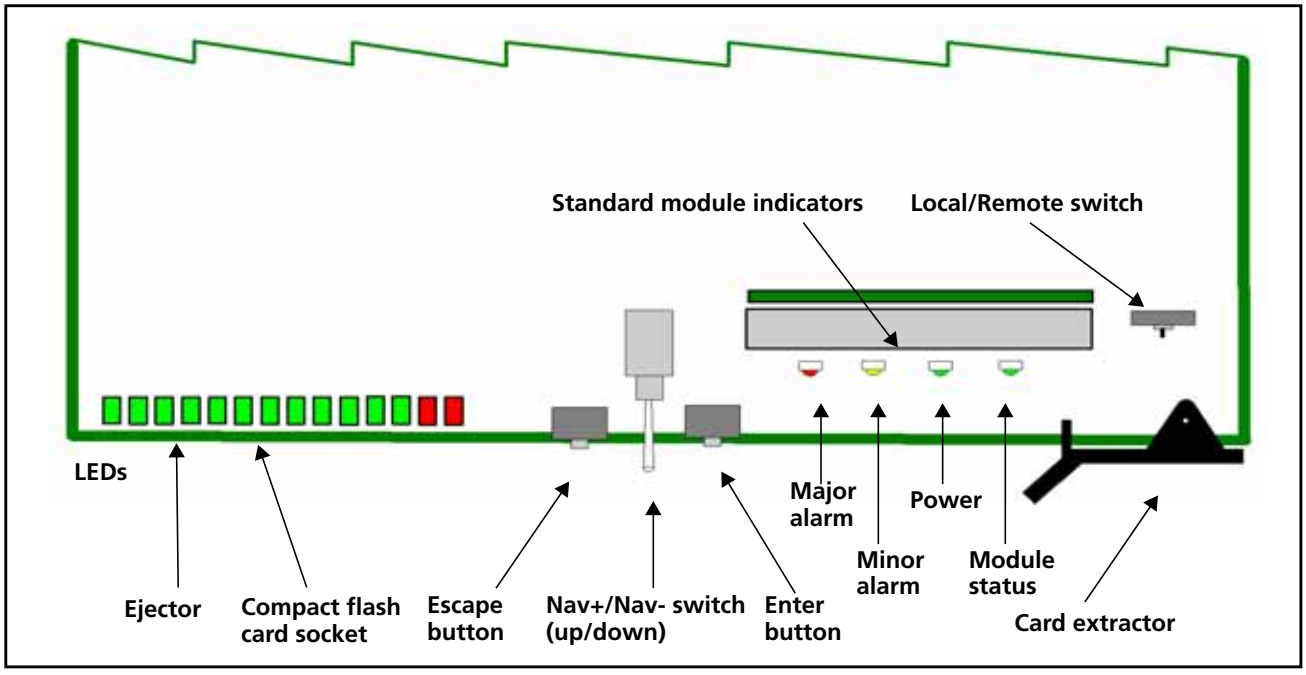


Figure 3-2 MGI-3903 Card-Edge LEDs and Module Indicators

Table 3-4 MGI-3903 LED Descriptions

LED Indicator	Color	Meaning (When Lit)
ACT (Compact flash card active)	Amber	The flash card is actively being written to or read from. To prevent corruption of the data, do not remove the flash card when this LED is lit.
MTD (Compact flash card mounted)	Green	The flash card has been opened and the files recognized by the MGI-3903

Note: *A frame's active resource module provides additional LEDs that indicate conditions not included in these module-specific LEDs. See the card-edge of the resource module for these LEDs.*

Table 3-5 MGI-3903 Module Indicator Descriptions

LED Indicator	Color	Meaning (When Lit)
Major Alarm	Red	There is a problem with the card that will stop the product functioning correctly
Minor Alarm	Amber	There is a minor problem with the card that may reduce the functionality of the product
Power	Green	The card is receiving power
Module Status	Green	The module is configured, loaded and operating correctly

4 Router Connections

Sample System Layout

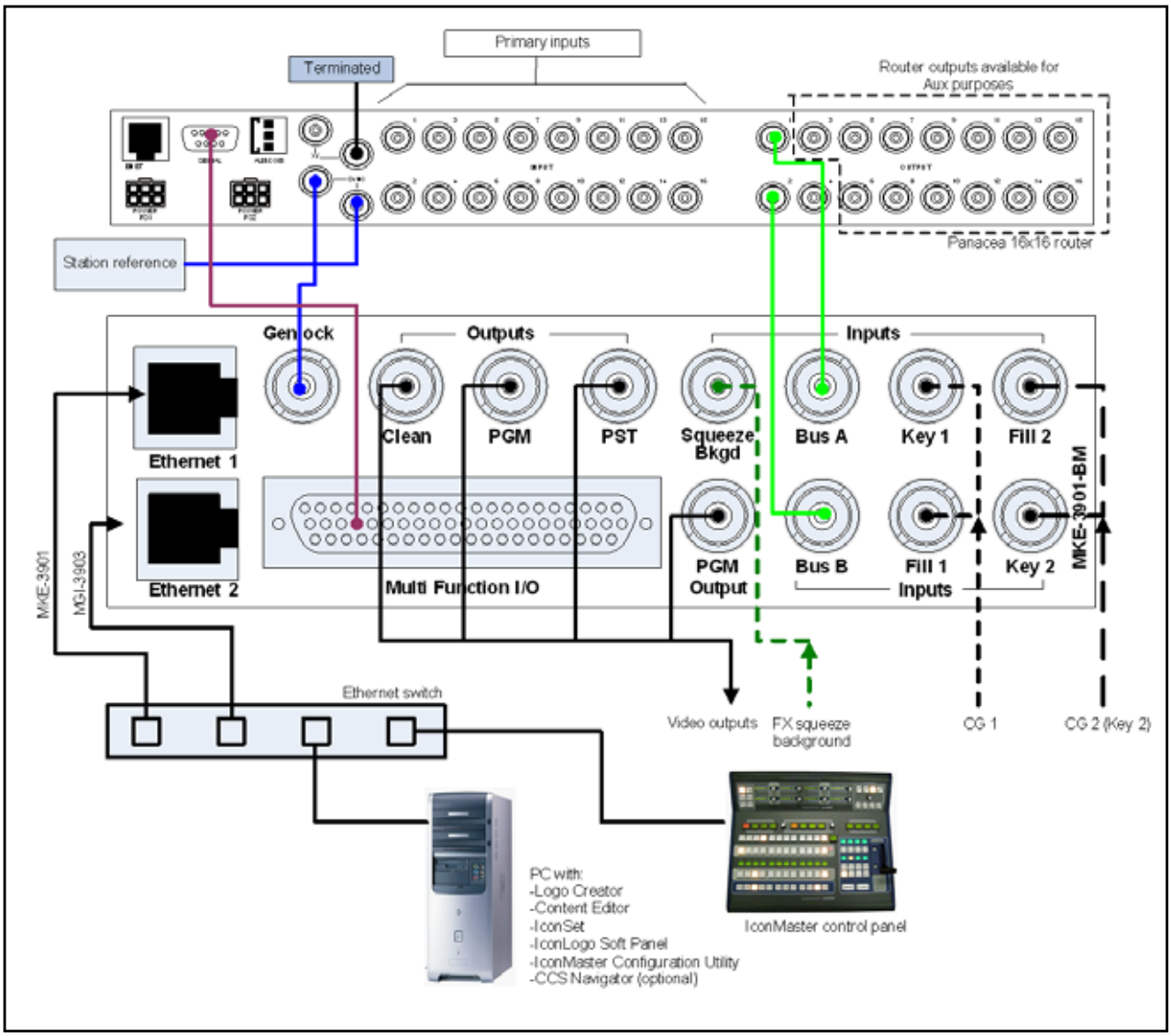


Figure 4-1 Sample System Layout Including a Router, PC, Ethernet Switch and IconMaster System

System Configurations—NEO Routers

Note: *System configurations for Panacea routers start on page 62. System configurations for Platinum routers start on page 91.*

This section describes the connections that are required in some typical configurations involving NEO NSM internal routers. The following NEO router configurations are described in this section:

- IconMaster System with Internal Video NSM Router and Optional ICONM-BO-V Module
- IconMaster System with Single Channel Audio and Video NSM Routers and Optional ICONM-BO-VAC Module
- IconMaster System with Internal (Two Channel) Audio and Video NSM Routers and Optional ICONM-BO-VAC Module

General Information

Both Video and Audio NSMs

- Only one set of NSMs can be installed in a 3RU frame.
- The source offset for all NSM modules is 1.
- The destination offset for all NSM modules is 0.

Video-Only NSM Modules

- The first video NSM module must be assigned an X-Y level of 0.
- When ganging 2 cards together, the second module must be assigned an X-Y level of 1.

Audio-Only NSM Modules

- The NSM-7×2AES router supports a single AES stream for both A and B inputs on the IconMaster. If the NSM-7×2AES routers are to be used for discrete AES audio for a full two AES (four-channel) system, four of these router modules are required.
- The expected use would be as follows:
  - NSM #1 and NSM #2 provide AES 1 for Bus A and Bus B.
  - NSM #3 and NSM #4 provide AES 2 for Bus A and Bus B.

Sample Configuration 1: IconMaster System with Internal Video NSM Router and Optional ICONM-BO-V Module

This section describes the connections that are required in a typical configurations involving an IconMaster system with an NSM video router module and an optional breakout module. You can place the NSM modules anywhere in the same NEO frame as the IconMaster system. **Figure 4-3** on page 64 shows a detailed illustration of this process.

1. Configure the NEO NSM Module

1 Set the NEO NSM back module to **Unterminated** reference:

a Remove the NSM back module from the NEO frame.

b Locate jumper **JP1** on the NEO NSM back module (see **Figure 4-2**), and then set the NEO NSM back module to **Unterminated** reference by setting **JP1** as shown.

c Reinstall the NSM back module into the NEO frame.

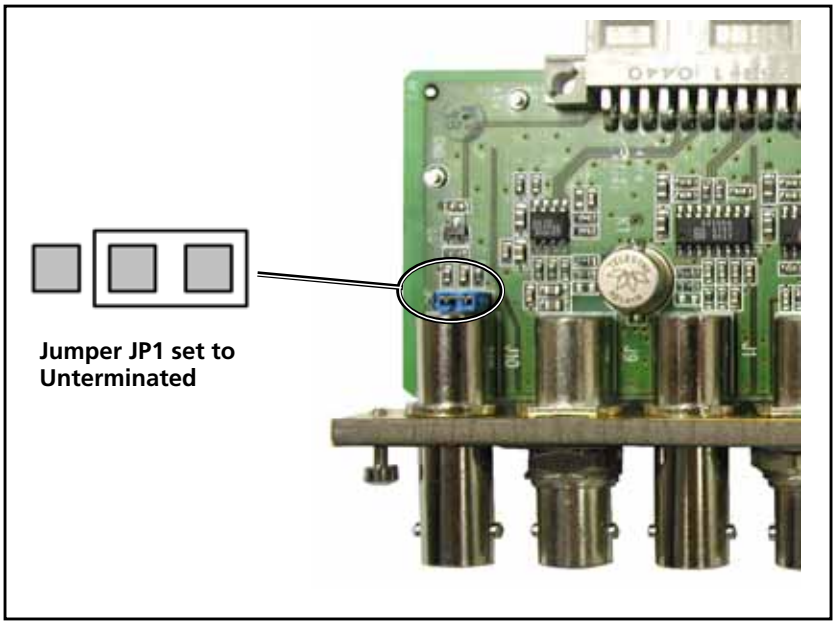


Figure 4-2 Jumper JP1 on the NSM Back Module

2 Connect a maximum of 7 video inputs to the BNC connections labeled **In 1** to **In 7**.

3 Connect **Out 1** on the NSM to **Input Bus A** on the MKE-3901.

4 When using the ICONM-BO-VAC breakout module and NSM routers, audio output 1 from the NSM router must be connected to **Bus A In 1** on the breakout module as indicated in **Figure 4-4** on page 65.

When using the ICON-BO-VAB breakout module and NSM routers, the audio output 1 from the NSM router must be connected to **Input Bus A1** on the breakout module as indicated in **Table 2-9** on page 54.

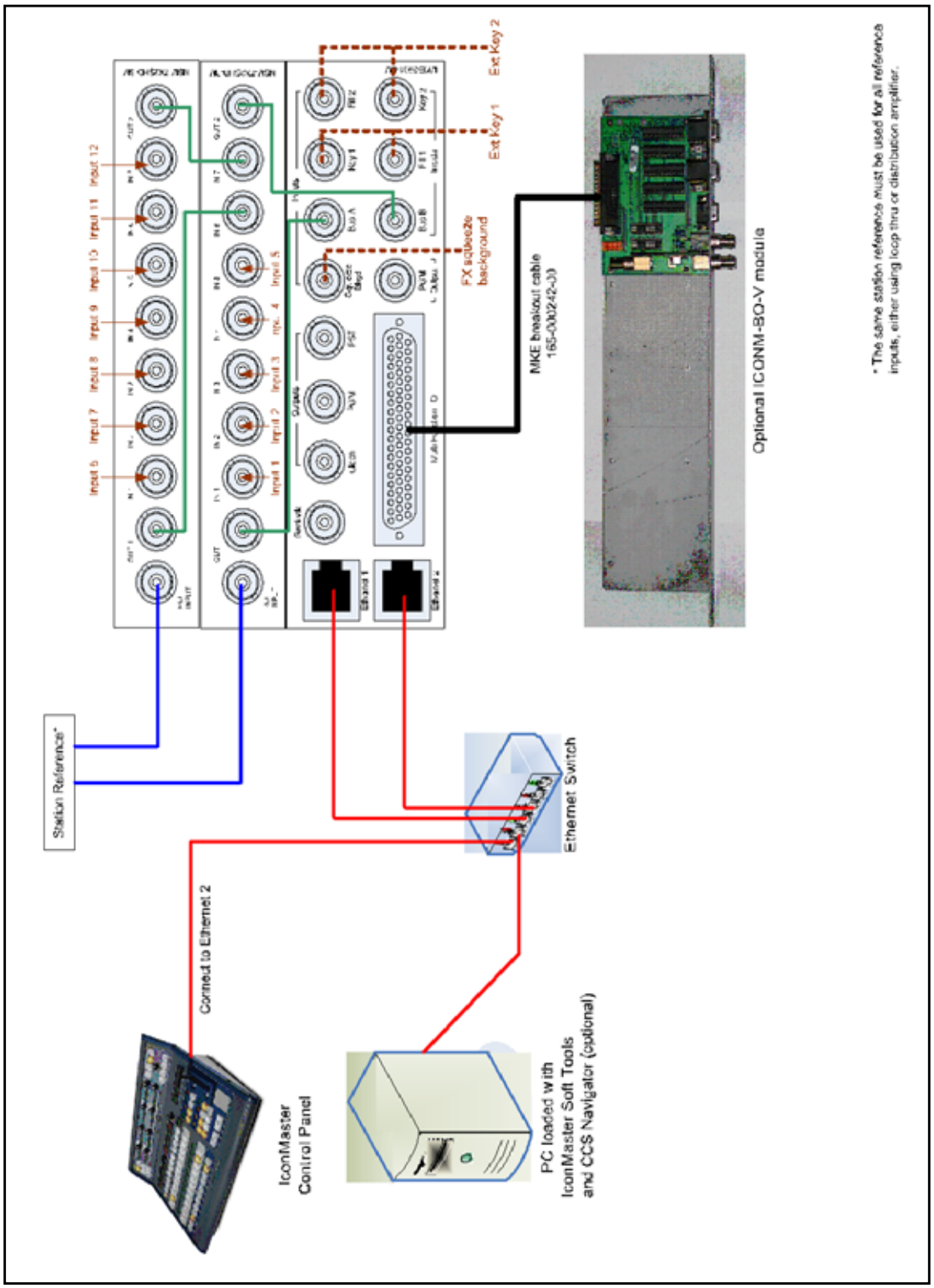

Ext Key 2
Ext Key 1
FX squeeze background
MKE breakout cable
165-000242-00
Optional ICONM-BO-V module
* The same station reference must be used for all reference inputs, either using loop thru or distribution amplifier.
Station Reference*
Ethernet Switch
Connect to Ethernet 2
IconMaster Control Panel
PC loaded with IconMaster Soft Tools and CCS Navigator (optional)

Figure 4-3 IconMaster System with Internal Video NSM Router and Optional ICONM-BO-V Module

Figure 4-4 Audio 1 NSM Connection to ICONM-BO-VAC

2. Make Additional Connections

1 Connect your composite station reference to the **Ref Inputs** and **Genlock** connection as shown in **Figure 4-3**.

2 On the MKE-3901 back module, connect **Key 1** input source to **Key 1** and **Fill 1** as appropriate.

3 On the MKE-3901 back module, connect **Key 2** input source to **Key 2** and **Fill 2** as appropriate.

On the MKE-3901 back module, **Squeeze Bkgd** can be supplied by an external router.

Note: *The IconMaster control panel can be connected to any network switch that shares a network with the MKE-3901 and MGI-3903 modules.*

4 Connect the two **Ethernet** ports as follows:

Connect **Ethernet 1** (connection for MKE-3901 control) to a switch using a straight-through Ethernet cable.

Connect **Ethernet 2** (two connection options for MGI-3903 control and logo download)

- To the same switch as Ethernet 1 using a normal Ethernet cable
- To a dedicated switch used for the MGI functionality using a normal Ethernet cable

5 Power up the system.

3. Set the IP Address for the MKE-3901 and MGI-3903 Modules

See ***Configuring IP Addresses*** on page 99 for more information.

4. Set the NSM Card-Edge Parameters

Note: *See the Installation and Operation Manual for your NEO module for more detailed information about setting parameters.*

1 Press the left (**Esc**) button until the **NSM** message appears on the VFD display

2 Press the right (**Sel**) button.

3 Use the toggle switch (**Nav**) to scroll through the parameter list until **Setup** is highlighted.

4 Press the right (**Sel**) button.

5 Use the toggle switch (**Nav**) to scroll through the parameter list until **Nav Mode** is highlighted.

6 Press the right (**Sel**) button.

7 Use the toggle switch (**Nav**) to scroll through the parameter list until **All List** is highlighted.

8 Press the right (**Sel**) button.

9 Press the left (**Esc**) button.

10 Press the left (**Esc**) button again.

11 Use the toggle switch (**Nav**) to scroll through the parameter list until **XY Level** is highlighted.
12 Press the right (**Sel**) button.
13 Use the toggle switch (**Nav**) to scroll through the values until **0** (on the first NSM) or **1** (on the second NSM) is reached.
14 Press the left (**Esc**) button to set the value.
15 Use the toggle switch (**Nav**) to scroll through the parameter list until **SrcOffset** is highlighted.
16 Press the right (**Sel**) button.
17 Use the toggle switch (**Nav**) to scroll through the values until **1** is reached.
18 Press the left (**Esc**) button to set the value.
19 Use the toggle switch (**Nav**) to scroll through the parameter list until **DestOffset** is highlighted.
20 Press the right (**Sel**) button.
21 Use the toggle switch (**Nav**) to scroll through the values until **0** is reached.
22 Press the left (**Esc**) button to set the value.

Sample Configuration 2: IconMaster System with Single Channel Audio and Video NSM Routers and Optional ICONM-BO-VAC Module

This section describes the connections that are required in a typical configurations involving an IconMaster system, with single channel audio and video NSM router modules and an optional breakout module. You can place the NSM modules anywhere in the same NEO frame as the IconMaster system. **Figure 4-6** on page 68 shows a detailed illustration of this process.

1. Configure the NSM Modules

Note: *The first NSM module will provide* ***Inputs 1*** *to* ***5****; the second NSM module will provide* ***Inputs 6*** *to* ***12****.*

1 Set the NEO NSM back module to **Unterminated** reference:
   a Remove the NSM back module from the NEO Frame.
   b Locate jumper **J11** on the NEO NSM back module (see **Figure 4-5**).
   c Set the NEO NSM back module to **Unterminated** reference by setting **J11** as shown.
   d Reinstall the NSM back module into the NEO frame.

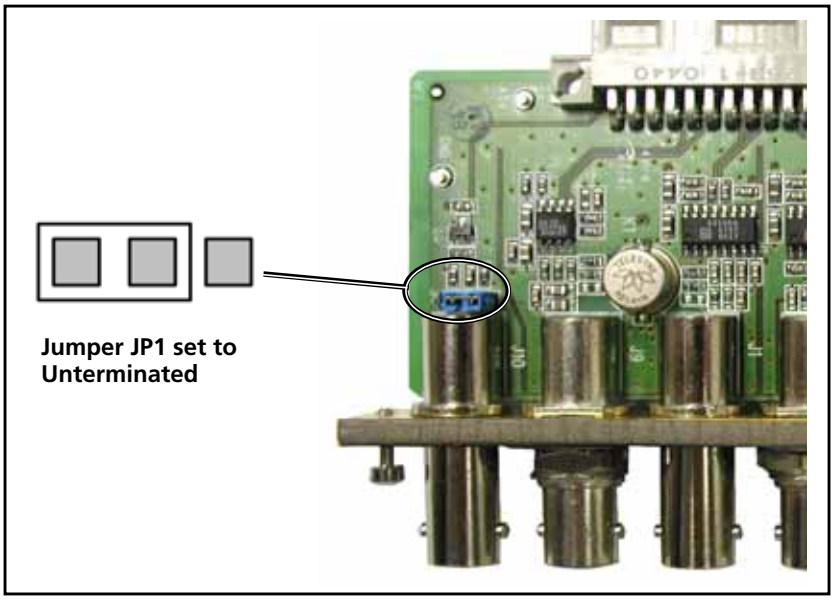


Figure 4-5 Jumper J11 on the NSM Back Module

2 On the first NSM back module, connect a maximum of 5 audio inputs to the BNC connections labeled **In 1** to **In 5**.

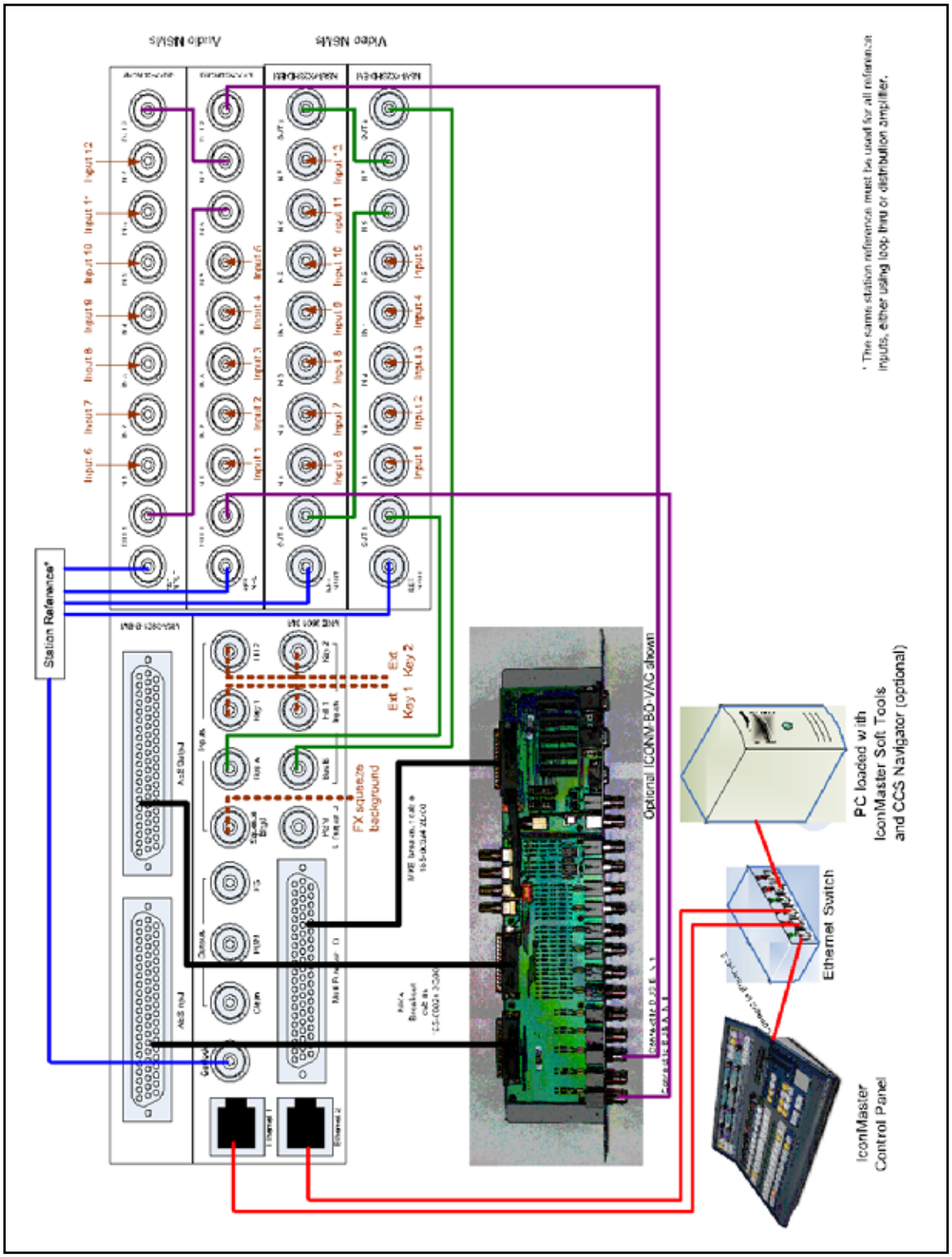

Video NSMs
Audio NSMs
Station Reference*
Ext. Key 1
Ext. Key 2
FX separate background
Optional ICONM-BO-VAC shown
PC loaded with IconMaster Soft Tools and CCS Navigator (optional)
Ethernet Switch
IconMaster Control Panel
* The same station reference must be used for all reference inputs, either using loop thru or distribution amplifier.

Figure 4-6 IconMaster System with Internal (Single Channel) Audio and Video NSM Internal Routers and Optional ICONM-BO-VAC Module

3 On the second NSM back module, connect a maximum of 7 video audio inputs to the BNC connections labeled **In 1** to **In 7**.

4 Connect **Out 1** on the first NSM to **AES Bus A** on the MKA-3901. This can be done by direct connection, or by ICONM-BO-VAB or ICONM-BO-VAC breakout module connection.
5 Connect **Out 2** on the first NSM to **AES Bus B** on the MKA-3901.
6 Connect **Out 1** on the second NSM to **In 6** on the first NSM.
7 Connect **Out 2** on the second NSM to **In 7** on the first NSM.

2. Make Additional Connections

1 Connect your composite station reference to the **Ref Inputs** and **Genlock** connection as shown in **Figure 4-6**.
2 On the MKE-3901 back module, connect **Key 1** input source to **Key 1** and **Fill 1** as appropriate.
3 On the MKE-3901 back module, connect **Key 2** input source to **Key 2** and **Fill 2** as appropriate.
4 On the MKE-3901 back module, **Squeeze Bkgd** can be supplied by an external router.

Note: *If you are connecting **Ethernet 1** to a switch, the IconMaster Control Panel must be connected to the same switch*

5 Connect the two **Ethernet** ports as follows:

Ethernet 1 (connection for MKE-3901 control) to a switch using a straight-through Ethernet cable

Ethernet 2 (two connection options for MGI-3903 control and logo download)

- ❑ To the same switch as Ethernet 1 using a normal Ethernet cable
- ❑ To a dedicated switch used for the MGI functionality using a normal Ethernet cable

6 Power up the system.

3. Set the IP Address for the MKE-3901 and MGI-3903 Modules

See ***Configuring IP Addresses*** on page 99 for more information.

4. Set the NSM Card-Edge Parameters

Note: *See the Installation and Operation Manual for your NEO module for more information about setting parameters.*

1 Press the left (**Esc**) button until the **NSM** message appears on the VFD display
2 Press the right (**Sel**) button.
3 Use the toggle switch (**Nav**) to scroll through the parameter list until **Setup** is highlighted.
4 Press the right (**Sel**) button.
5 Use the toggle switch (**Nav**) to scroll through the parameter list until **Nav Mode** is highlighted.
6 Press the right (**Sel**) button.
7 Use the toggle switch (**Nav**) to scroll through the parameter list until **All List** is highlighted.
8 Press the right (**Sel**) button.
9 Press the left (**Esc**) button.
10 Press the left (**Esc**) button again.
11 Use the toggle switch (**Nav**) to scroll through the parameter list until **XY Level** is highlighted.
12 Press the right (**Sel**) button.

13 Use the toggle switch (**Nav**) to scroll through the values until **2** (on the first NSM) or **3** (on the second NSM) is reached.
14 Press the left (**Esc**) button to set the value.
15 Use the toggle switch (**Nav**) to scroll through the parameter list until **SrcOffset** is highlighted.
16 Press the right (**Sel**) button.
17 Use the toggle switch (**Nav**) to scroll through the values until **1** is reached.
18 Press the left (**Esc**) button to set the value.
19 Use the toggle switch (**Nav**) to scroll through the parameter list until **DestOffse**t is highlighted.
20 Press the right (**Sel**) button.
21 Use the toggle switch (**Nav**) to scroll through the values until **0** is reached.
22 Press the left (**Esc**) button to set the value.

Sample Configuration 3: IconMaster System with Internal (Two Channel) Audio and Video NSM Routers and Optional ICONM-BO-VAC Module

This section describes the connections that are required in a typical configurations involving an IconMaster system, with two channel audio and video NSM router modules and an optional breakout module. You can place the NSM modules anywhere in the same NEO frame as the IconMaster system. **Figure 4-8** on page 72 shows a detailed illustration of this process.

1. Configure the NSM Modules

Note: *The first NSM module will provide* ***Inputs 1*** *to* ***5****; the second NSM module will provide* ***Inputs 6*** *to* ***12****.*

1 Set the NEO NSM back module to **Unterminated** reference:
   a Remove the NSM back module from the NEO Frame.
   b Locate jumper **J11** on the NEO NSM back module (see **Figure 4-5**).
   c Set the NEO NSM back module to **Unterminated** reference by setting **J11** as shown.
   d Reinstall the NSM back module into the NEO frame.

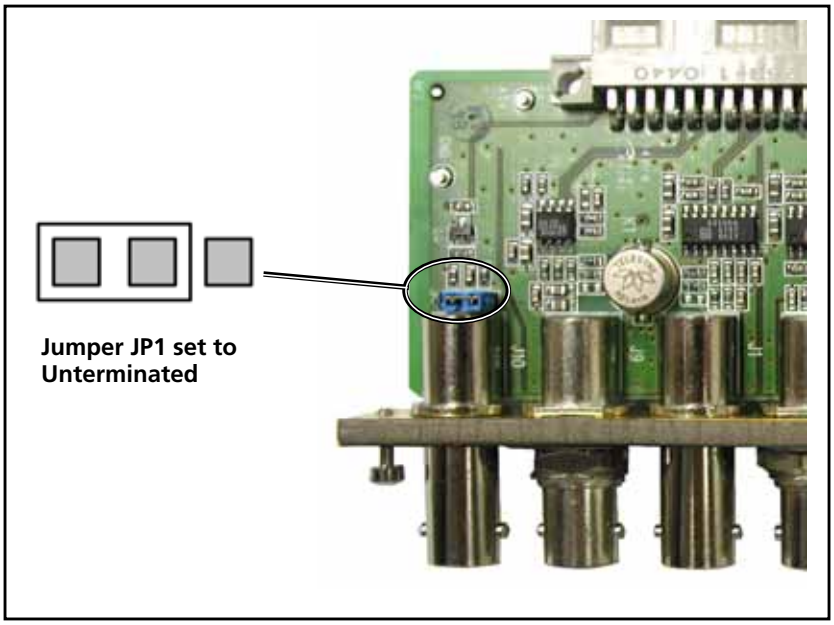


Figure 4-7 Jumper J11 on the NSM Back Module

2 On the first NSM back module, connect a maximum of 5 audio inputs to the BNC connections labeled **In 1** to **In 5**.

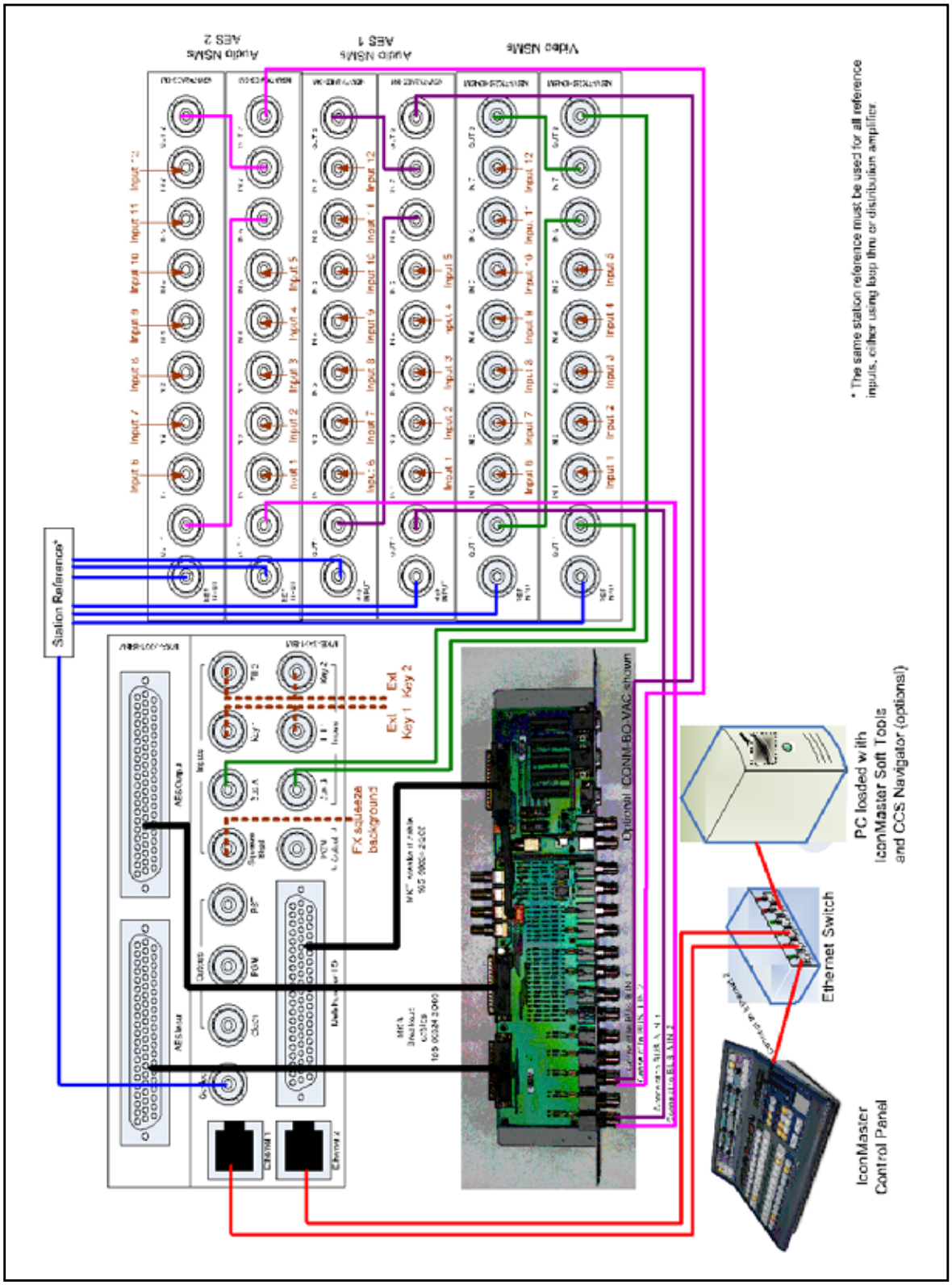

Video NSMs
Audio NSMs AES 1
Audio NSMs AES 2
* The same station reference must be used for all reference inputs, either using loop thru or distribution amplifier
Station Reference*
Ext. Key 1 Key 2
FX squeeze background
Optional CONM-BO-VAC shown
PC loaded with IconMaster Soft Tools and CCS Navigator (optional)
Ethernet Switch
IconMaster Control Panel

Figure 4-8 IconMaster System with Internal (Two Channel) Audio and Video NSM Routers and Optional ICONM-BO-VAC Module

3 On the second NSM back module, connect a maximum of 7 video audio inputs to the BNC connections labeled **In 1** to **In 7**.

4 Connect **Out 1** on the first NSM to **AES Bus A** on the MKA-3901. This can be done by direct connection, or by ICONM-BO-VAB or ICONM-BO-VAC breakout module connection.

5 Connect **Out 2** on the first NSM to **AES Bus B** on the MKA-3901.

6 Connect **Out 1** on the second NSM to **In 6** on the first NSM.

7 Connect **Out 2** on the second NSM to **In 7** on the first NSM.

Audio output 1 from the third NSM router must be connected to **Bus A In 2** on the breakout module as shown in **Figure 4-9**.

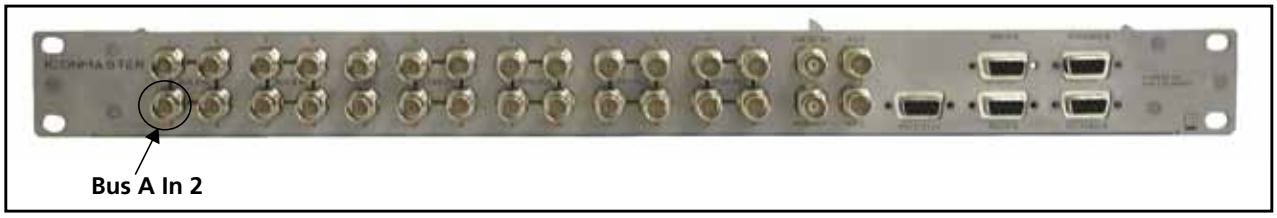


Figure 4-9 Audio Output 1 From Third NSM Router to Bus A In 2

Audio output 2 from the third NSM router must be connected to **Bus B In 2** on the breakout module, as indicated in **Figure 4-10**.

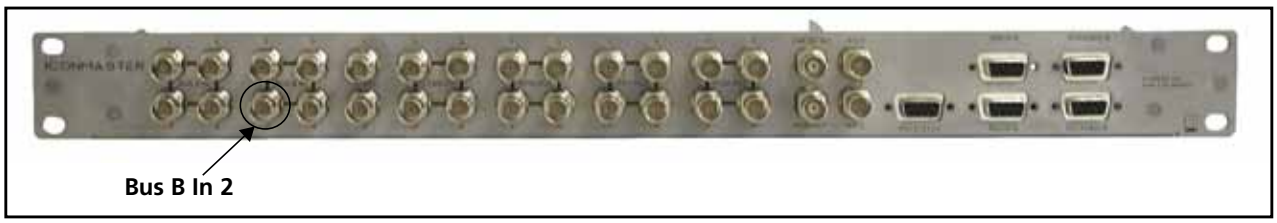


Figure 4-10 Audio Output 2 From Third NSM Router to Bus B In 2

When using the IOCON-BO-VAB breakout module, audio output 1 from the third NSM router must be connected to **Input Bus A2** on the breakout module, as indicated in **Table 2-9** on page 54.

Audio output 2 from the third NSM must be connected to **Input Bus B2** on the breakout module, as indicated in **Table 2-9** on page 54.

System Configurations—Panacea Routers

Note: *System configurations for NEO routers start on page 62. System configurations for Platinum routers start on page 91.*

This section describes the connections that are required in some typical configurations involving Panacea external routers. The following Panacea router configurations are described in this section:

- IconMaster system with external Panacea video router and optional ICONM-BO-V module
- IconMaster System with external Panacea video router and optional ICONM-BO-V module with optional SPT-LSERIAL serial protocol translator

- IconMaster system with external Panacea clean quiet video router and optional ICONM-BO-V module with optional SPT-LSERIAL serial protocol translator
- IconMaster system with external Panacea (single channel) audio and video routers and optional ICONM-BO-VAC module with optional SPT-LSERIAL serial protocol translator
- IconMaster system with external Panacea (two channel) audio and video routers and optional ICONM-BO-VAC module with optional SPT-LSERIAL serial protocol translator

Sample Configuration 1: IconMaster System, External Panacea Video Router, Optional ICONM-BO-V Module

This section describes the connections that are required in a typical configurations involving an IconMaster system with a Panacea video router and an optional breakout module. **Figure 4-12** on page 75 shows a detailed illustration of this process.

1. Configuring the Panacea Router

Before you can make any connections to an IconMaster, the Panacea router must already be configured as desired. If your Panacea router is already operational, you do not need to configure it. If, however, your Panacea router is not already operational, you must install and configure it as desired for your facility. See the *Panacea Series Frame and Modules Installation, Configuration, and Operation Manual* for detailed information.

2. Make Connections on the Panacea and ICONM-BO-V Breakout Module

When using the ICONM-BO-V breakout module, the serial port of the Panacea router must be connected to the **RS-232/422-A**, **-B**, or **-E** port on the breakout module as indicated in **Figure 4-11**.

Figure 4-11 RS-232/422-E Port on the ICONM-BO-V Breakout Module

3. Make Connections on the Panacea and MKE-3901

1. On the Panacea back module, connect a maximum of 16 video inputs to the BNC connections labeled **Input 1** to **Input 16**.
2. Connect **Output 1** on the Panacea to **Input Bus A** on the MKE-3901.
3. Connect **Output 2** on the Panacea to **Input Bus B** on the MKE-3901.
4. Connect your station reference to the **Sync** connection of the Panacea back module.
5. Terminate one of the **XY** BNC connectors on the Panacea router.
6. Connect the serial port of the Panacea router to **Serial Port E** in the **Multi Function I/O** connector on the MKE-3901.

   This can be done in either of these two ways.

   - Direct connection
   - ICONM-BO-V breakout module connection

7 On the MKE-3901 back module, connect the **Key 1** input source to **Key 1** and **Fill 1** as appropriate.

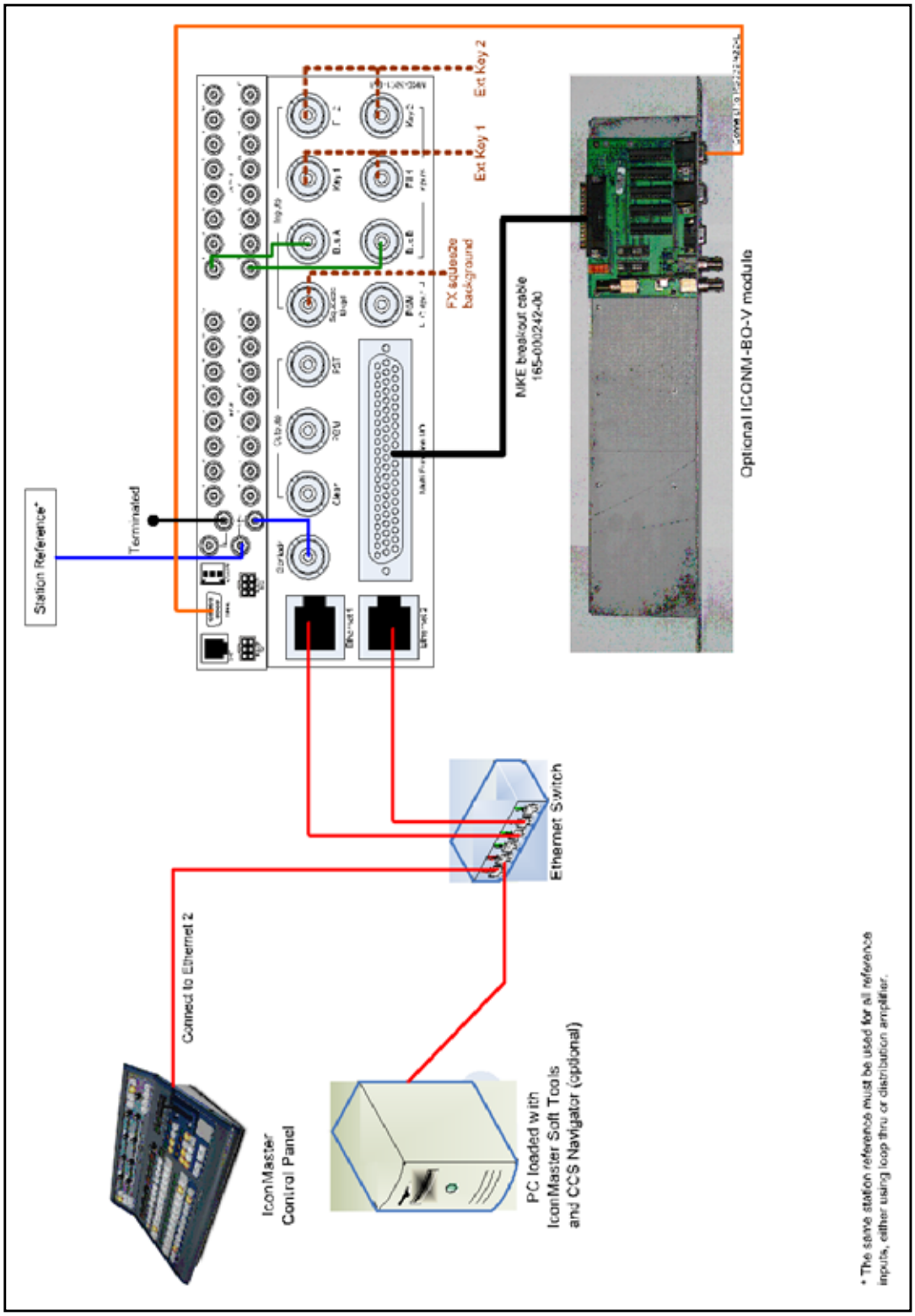


Figure 4-12 IconMaster System with External Panacea Video Router and Optional ICONM-BO-V Module

8 On the MKE-3901 back module, connect the **Key 2** input source to **Key 2** and **Fill 2** as appropriate.

9 On the MKE-3901 back module, supply **Squeeze Bkgd** by an external router.

Note: *If you are connecting* ***Ethernet 1*** *to a switch, the IconMaster control panel must be connected to the same network.*

10 Connect the two **Ethernet** ports as follows:

Ethernet 1 (connection for MKE-3901 control) to a switch using a straight-through Ethernet cable

Ethernet 2 (two connection options for MGI-3903 control and logo download)

- To the same switch as Ethernet 1 using a normal Ethernet cable
- To a dedicated switch used for the MGI functionality using a normal Ethernet cable

11 Power up the system.

Sample Configuration 2: IconMaster System, External Panacea Video Router, Optional ICONM-BO-V Module, Optional SPT-LSERIAL

This section describes the connections that are required in a typical configurations involving an IconMaster system with a Panacea video router, an optional breakout module, and an optional SPT-LSERIAL serial protocol translator. **Figure 4-14** on page 77 shows a detailed illustration of this process.

1. Configure the Panacea Router

Before you can make any connections to an IconMaster, the Panacea router must already be configured as desired. If your Panacea router is already operational, you do not need to configure it. If, however, your Panacea router is not already operational, you must install and configure it as desired for your facility. See the *Panacea Series Frame and Modules Installation, Configuration, and Operation Manual* for detailed information.

2. Make Connections on the Panacea and ICONM-BO-V Breakout Module

When using the ICONM-BO-V breakout module, the serial port of the Panacea router must be connected to the **RS-232/422-A**, **-B**, or **-E** port on the breakout module as indicated in **Figure 4-13**.

Figure 4-13 RS-232/422-E Port on the ICONM-BO-V Breakout Module

3. Make Connections on the Panacea and MKE-3901

1 On the Panacea back module, connect a maximum of 16 video inputs to the BNC connections labeled **Input 1** to **Input 16**.

2 Connect **Output 1** on the Panacea to **Input Bus A** on the MKE-3901.

3 Connect **Output 2** on the Panacea to **Input Bus B** on the MKE-3901.

4 Connect your station reference to the **Sync** connection of the Panacea back module.

5 Terminate one of the **XY** BNC connectors on the Panacea router.

6 Connect the serial port of the Panacea router to **Serial Port E** in the **Multi Function I/O** connector on the MKE-3901.

- This can be done in either of these two ways.
- Direct connection
- ICONM-BO-V breakout module connection

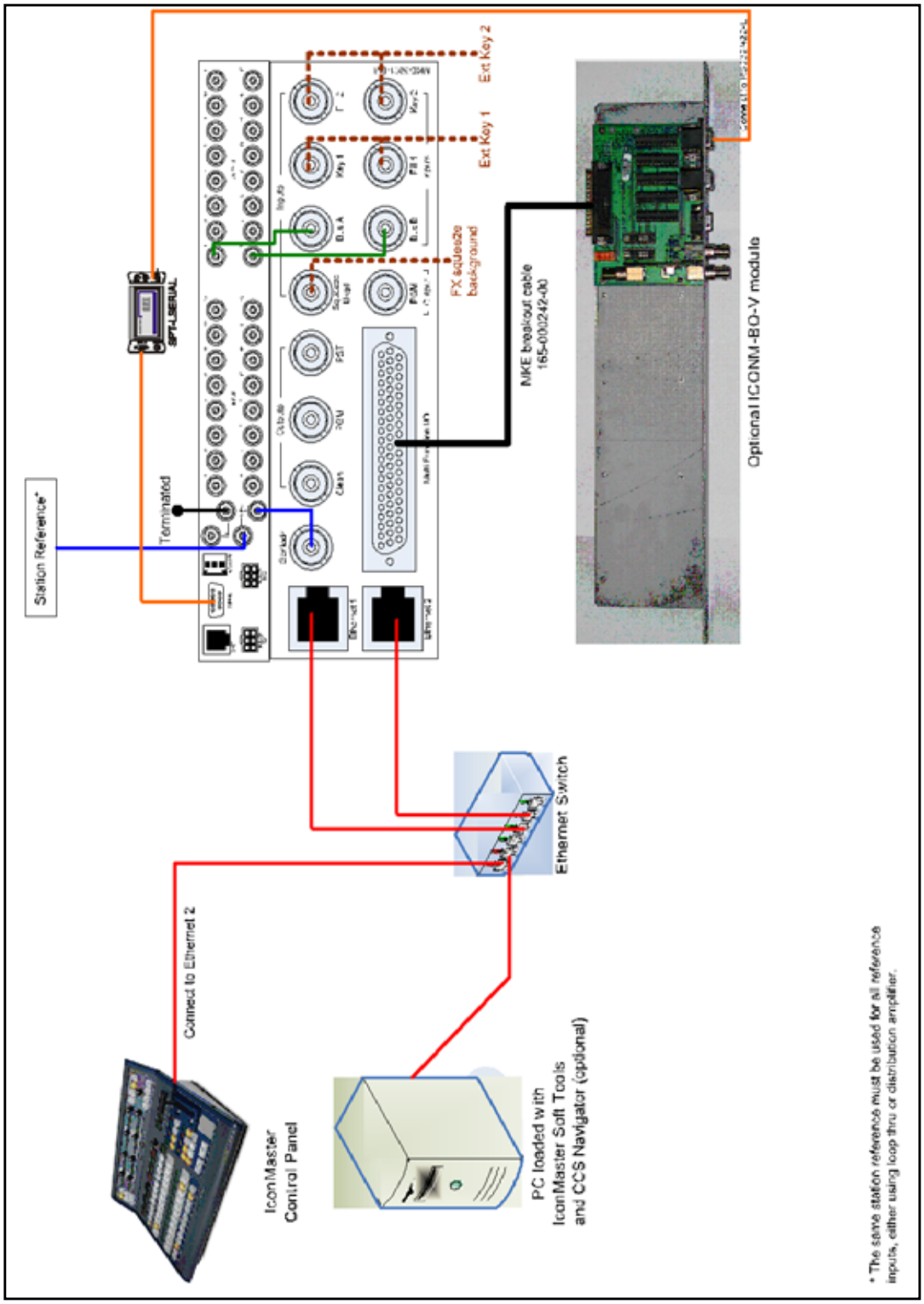

Ext Key 2
Ext Key 1
FX squeeze background
MKE breakout cable
165-0002242-00
Optional ICONM-BO-V module
SPT-LSERIAL
Station Reference*
Terminated
Ethernet Switch
Connect to Ethernet 2
IconMaster Control Panel
PC loaded with IconMaster Soft Tools and CCS Navigator (optional)
* The same station reference must be used for all reference inputs, either using loop thru or distribution amplifier.

Figure 4-14 IconMaster System with External Panacea Video Router and Optional ICONM-BO-V Module with Optional SPT-LSERIAL

7 On the MKE-3901 back module, connect the **Key 1** input source to **Key 1** and **Fill 1** as appropriate.

8 On the MKE-3901 back module, connect the **Key 2** input source to **Key 2** and **Fill 2** as appropriate.

9 On the MKE-3901 back module, supply **Squeeze Bkgd** by an external router.

Note: *If you are connecting* ***Ethernet 1*** *to a switch, the IconMaster control panel must be connected to the same switch.*

10 Connect the two **Ethernet** ports as follows:

Ethernet 1 (connection for MKE-3901 control) to a switch using a straight-through Ethernet cable

Ethernet 2 (two connection options for MGI-3903 control and logo download)

- To the same switch as Ethernet 1 using a normal Ethernet cable
- To a dedicated switch used for the MGI functionality using a normal Ethernet cable

11 Power up the system.

4. Make Connections on the Panacea and SPT

The IconMaster is installed in the control line, as shown in the example in **Figure 4-14** on page 77.

- The maximum allowable distance for each segment of the X-Y coaxial cable run is 2,000 ft (609 m).
- The maximum length for each RS-232 segment is 50 ft (15 m).
- The maximum length for each RS-422 segment is 2,000 ft (609 m).
- Up to 64 additional serial ports may be added.

Figure 4-15 on page 79 shows the connector pin assignments on both ends of the connection (the cable wiring description is shown between the connectors).

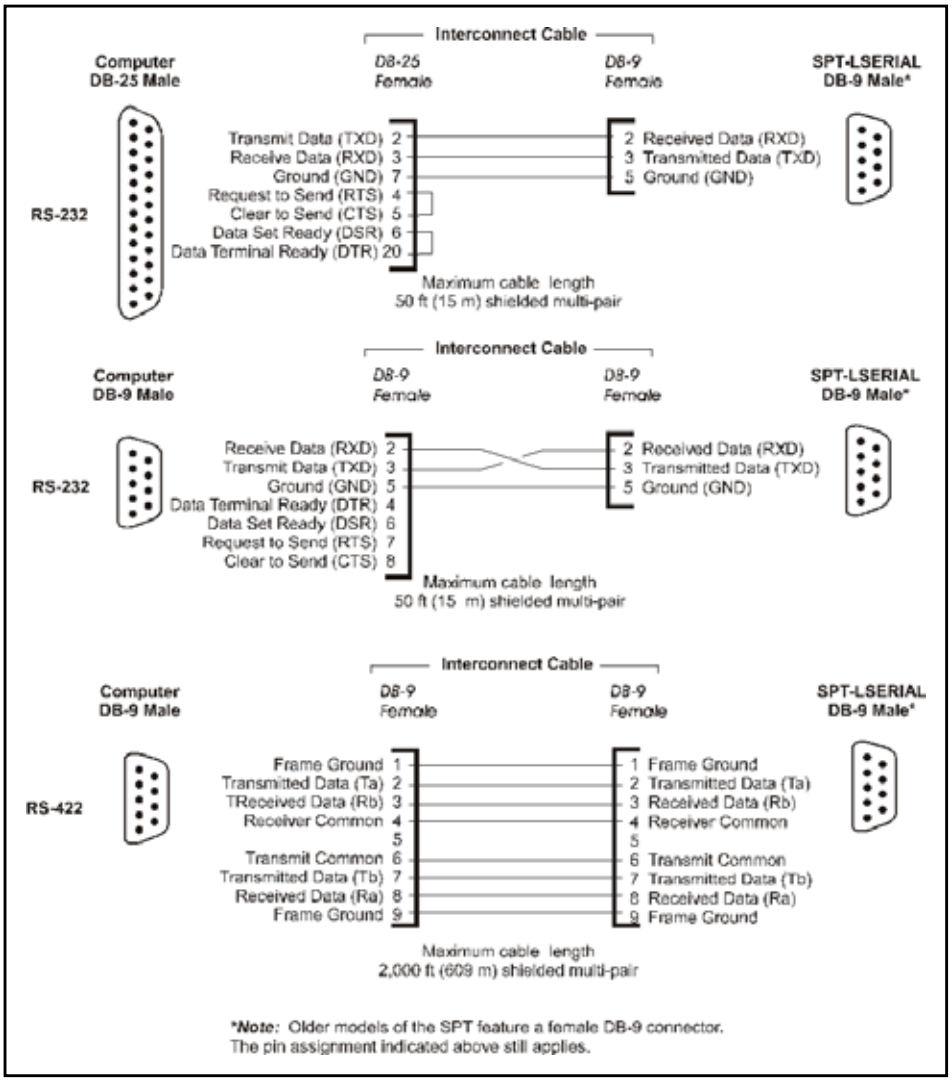


Figure 4-15 Cable Wiring Details for IconMaster

Table 4-1 Power Requirements for SPT-LSERIAL

PD9200PL6A Adaptor	**Description**
	Locations with 110-127 volt electrical systems should use the **PD9200PL6A** adaptor*
	Input voltage: 120 VAC, 60 Hz
	Input current: 60 mA max.
	Output voltage: 9.0 VDC
	Output current: 200 mA
	Output connector: 5.5 mm x 2.5 mm female barrel power plug with positive center
PD9300EPL6A Adaptor	**Description**

Table 4-1 Power Requirements for SPT-LSERIAL

PD9200PL6A Adaptor	Description
	Locations with 220-240 volt electrical systems should use the **PD9300EPL6A** adaptor*
	Input voltage: 230 VAC, 5 0Hz
	Input current: 40 mA max
	Output voltage: 9.0 VDC
	Output current: 30 0mA
	Output connector: 5.5 mm x 2.5 mm female barrel power plug with positive center

* If you did not receive the correct adaptor for your electrical system, please contact your Customer Service representative.

Sample Configuration 3: IconMaster System, External Panacea Clean/Quiet Switch Video Router, Optional ICONM-BO-V Module, Optional SPT-LSERIAL

This section describes the connections that are required in a typical configuration involving an IconMaster system with a Panacea clean/quiet switch router, an optional breakout module, and an optional SPT-LSERIAL serial protocol translator. **Figure 4-17** on page 82 shows a detailed illustration of this process.

1. Configure the Panacea Router

Before you can make any connections to an IconMaster, the Panacea router must already be configured as desired. If your Panacea router is already operational, you do not need to configure it. If, however, your Panacea router is not already operational, you must install and configure it as desired for your facility. See the *Panacea Series Frame and Modules Installation, Configuration, and Operation Manual* for detailed information.

2. Make Connections on the Panacea and ICONM-BO-V Breakout Module

When using the ICONM-BO-V breakout module, the serial port of the Panacea router must be connected to the **RS-232/422-A**, **-B**, or **-E** port on the breakout module as indicated in **Figure 4-16**.

Figure 4-16 RS-232/422-E Port on the ICONM-BO-V Breakout Module

3. Make Connections on the Panacea and MKE-3901

1. On the Panacea back module, connect a maximum of 16 video inputs to the BNC connections labeled **Input 1** to **Input 16**.
2. Connect **Output 1** on the Panacea to **Input Bus A** on the MKE-3901.

3 Connect **Output 2** on the Panacea to **Input Bus B** on the MKE-3901.

4 Connect your station reference to the **Sync** connection of the Panacea back module.

5 Terminate one of the **XY** BNC connectors on the Panacea router.

6 Connect the serial port of the Panacea router to **Serial Port E** in the **Multi Function I/O** connector on the MKE-3901.

This can be done in either of these two ways.

- Direct connection
- ICONM-BO-V breakout module connection

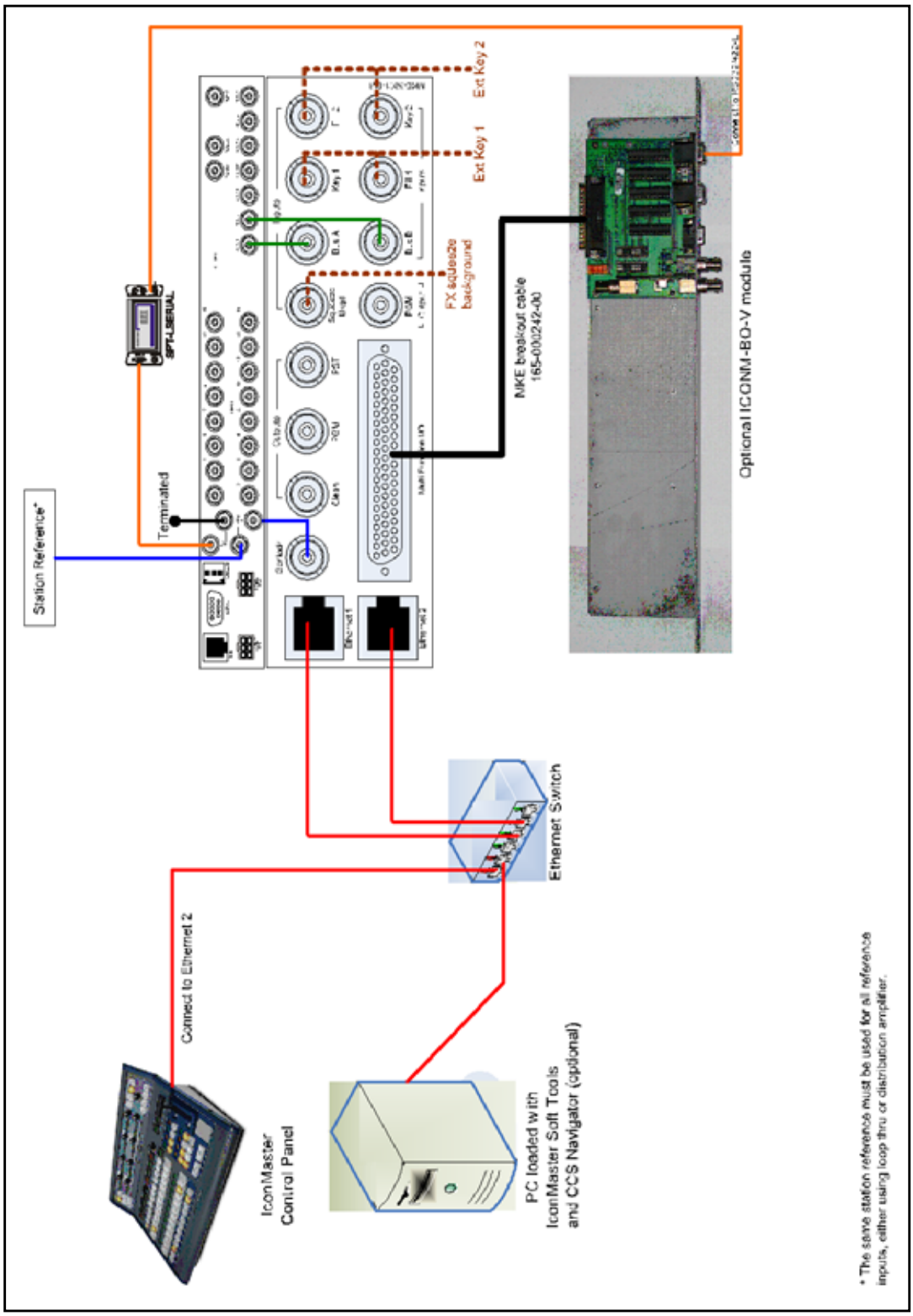


Figure 4-17 IconMaster System with External Panacea Clean/Quiet Switch Video Router, Optional ICONM-BO-V Module and Optional SPT-LSERIAL

7 On the MKE-3901 back module, connect the **Key 1** input source to **Key 1** and **Fill 1** as appropriate.

8 On the MKE-3901 back module, connect the **Key 2** input source to **Key 2** and **Fill 2** as appropriate.

9 On the MKE-3901 back module, supply **Squeeze Bkgd** by an external router.

Note: *If you are connecting* ***Ethernet 1*** *to a switch, the IconMaster control panel must be connected to the same switch.*

10 Connect the two **Ethernet** ports as follows:

Ethernet 1 (connection for MKE-3901 control) to a switch using a straight-through Ethernet cable

Ethernet 2 (two connection options for MGI-3903 control and logo download)

- To the same switch as Ethernet 1 using a normal Ethernet cable
- To a dedicated switch used for the MGI functionality using a normal Ethernet cable

11 Power up the system.

4. Make Connections on the Panacea and SPT

The IconMaster is installed in the control line, as shown in the example in **Figure 4-17** on page 82.

- The maximum allowable distance for each segment of the X-Y coaxial cable run is 2,000 ft (609 m).
- The maximum length for each RS-232 segment is 50 ft (15 m).
- The maximum length for each RS-422 segment is 2,000 ft (609 m).
- Up to 64 additional serial ports may be added.

Figure 4-15 on page 79 shows the connector pin assignments on both ends of the connection (the cable wiring description is shown between the connectors). **Table 4-1** on page 79 shows the power requirements for the SPT-LSERIAL adaptors.

Sample Configuration 4: IconMaster System, External Panacea (Single Channel) Audio and Video Routers, Optional ICONM-BO-VAC Module, Optional SPT-LSERIAL

This section describes the connections that are required in a typical configuration involving an IconMaster system with a single channel Panacea audio and video routers, an optional breakout module, and an optional SPT-LSERIAL serial protocol translator. **Figure 4-20** on page 85 shows a detailed illustration of this process.

1. Configure the Panacea Router

Before you can make any connections to an IconMaster, the Panacea router must already be configured as desired. If your Panacea router is already operational, you do not need to configure it. If, however, your Panacea router is not already operational, you must install and configure it as desired for your facility. See the *Panacea Series Frame and Modules Installation, Configuration, and Operation Manual* for detailed information.

2. Make Connections on the Panacea and ICONM-BO-VAC Breakout Module

When using the ICONM-BO-VAC breakout module and multiple Panacea routers (multi-level), the audio output 1 from the level 1 Panacea router must be connected to **Bus A In 1** on the breakout module as indicated in **Figure 4-18**.

Figure 4-18 Audio 1, Level 1 Panacea Connection to ICONM-BO-VAC

Likewise, the audio output 2 from the level 1 Panacea router must be connected to **Bus B In 1** on the breakout module as indicated in **Figure 4-19**.

Figure 4-19 Audio 2, Level 1 Panacea Connection to ICONM-BO-VAC

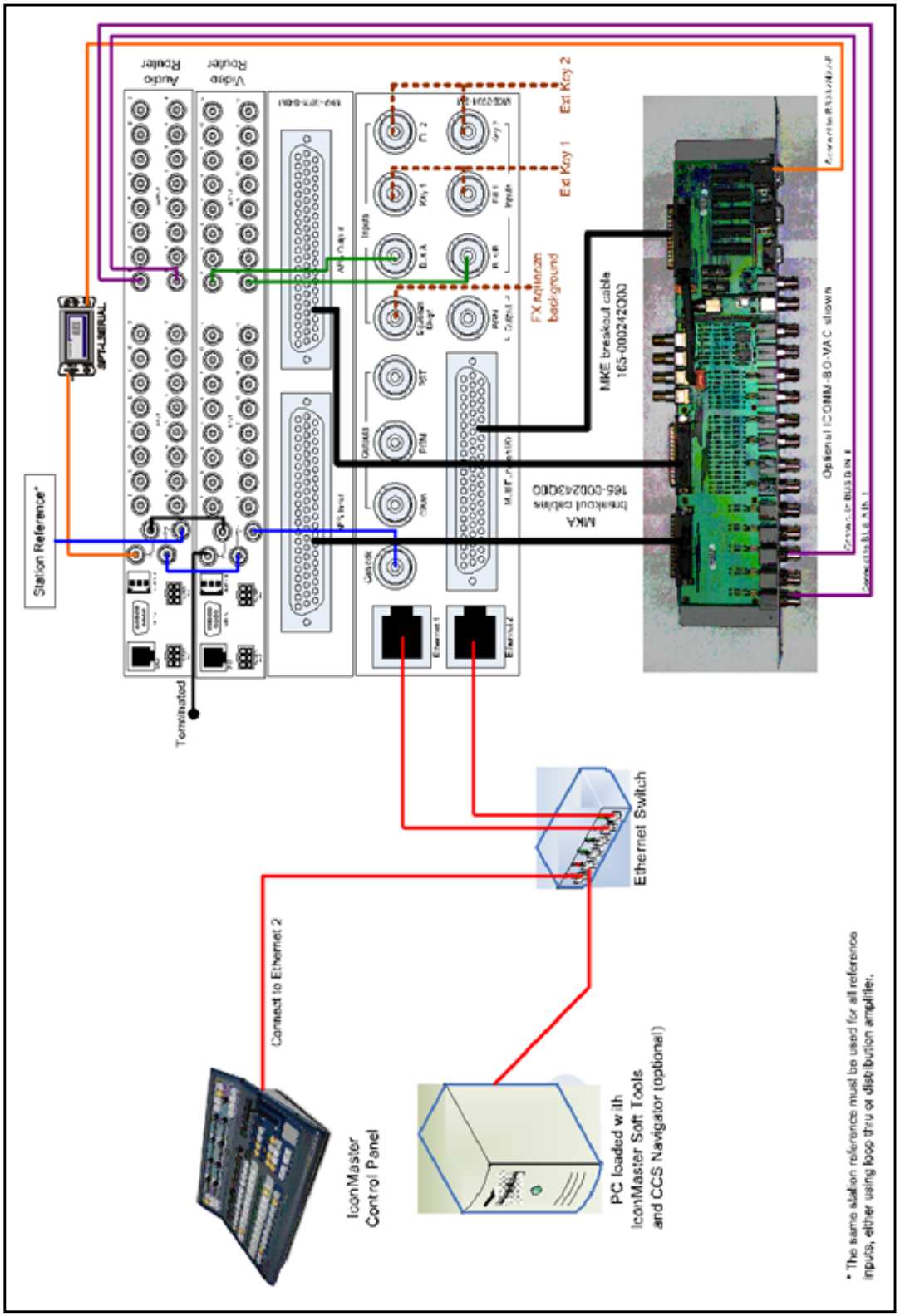


Figure 4-20 IconMaster System with External Panacea (Single Channel) Audio and Video Routers, Optional ICONM-BO-VAC Module, Optional SPT-LSERIAL

Audio output 1 from the level 2 Panacea router must be connected to **Bus A In 2** on the breakout module, as indicated in **Figure 4-21**.

Figure 4-21 Audio 1, Level 2 Panacea Connection to ICONM-BO-VAC

Audio output 1 from the level 2 Panacea router must be connected to **Bus B In 2** on the breakout module, as indicated in **Figure 4-22**.

Figure 4-22 Audio 2, Level 2 Panacea Connection to ICONM-BO-VAC

When using the ICON-BO-VAB breakout module and a Panacea router (single level), audio output 1 from the Panacea router must be connected to **Input Bus A1** on the breakout module as indicated in **Table 2-10** on page 41.

Likewise, audio output 2 from the Panacea router must be connected to **Input Bus B1** on the breakout module as indicated in **Table 2-10** on page 41.

Audio output 1 from the level 2 Panacea router must be connected to **Input Bus A2** on the breakout module as indicated in **Table 2-10** on page 41.

Audio output 2 from the level 2 Panacea router must be connected to **Input Bus B2** on the breakout module as indicated in **Table 2-10** on page 41.

3. Make Connections on the Panacea and MKE-3901

1. On the Panacea back module, connect a maximum of 16 video inputs to the BNC connections labeled **Input 1** to **Input 16**.
2. Connect **Output 1** on the Panacea to **Input Bus A** on the MKE-3901.
3. Connect **Output 2** on the Panacea to **Input Bus B** on the MKE-3901.
4. Connect your station reference to the **Sync** connection of the Panacea back module.
5. Terminate one of the **XY** BNC connectors on the Panacea router.
6. Connect the serial port of the Panacea router to **Serial Port E** in the **Multi Function I/O** connector on the MKE-3901. This can be done by direct connection or via the ICONM-BO-V breakout module connection.
7. On the MKE-3901 back module, connect the **Key 1** input source to **Key 1** and **Fill 1** as appropriate.
8. On the MKE-3901 back module, connect the **Key 2** input source to **Key 2** and **Fill 2** as appropriate.
9. On the MKE-3901 back module, supply **Squeeze Bkgd** by an external router.

Note: *If you are connecting* ***Ethernet 1*** *to a switch, the IconMaster control panel must be connected to the same switch.*

10 Connect the two **Ethernet** ports as follows:

Ethernet 1 (connection for MKE-3901 control) to a switch using a straight-through Ethernet cable

Ethernet 2 (two connection options for MGI-3903 control and logo download)

- To the same switch as Ethernet 1 using a normal Ethernet cable
- To a dedicated switch used for the MGI functionality using a normal Ethernet cable

11 Power up the system.

4. Make Connections on the Panacea and SPT

The IconMaster is installed in the control line, as shown in the example in **Figure 4-20** on page 85.

- The maximum allowable distance for each segment of the X-Y coaxial cable run is 2,000 ft (609 m).
- The maximum length for each RS-232 segment is 50 ft (15 m).
- The maximum length for each RS-422 segment is 2,000 ft (609 m).
- Up to 64 additional serial ports may be added.

Figure 4-15 on page 79 shows the connector pin assignments on both ends of the connection (the cable wiring description is shown between the connectors). **Table 4-1** on page 79 shows the power requirements for the SPT-LSERIAL adaptors.

Sample Configuration 5: IconMaster System with External Panacea (Two Channel) Audio and Video Routers, Optional ICONM-BO-VAC Module, Optional SPT-LSERIAL

This section describes the connections that are required in a typical configuration involving an IconMaster system with two channel Panacea audio and video routers, an optional breakout module, and an optional SPT-LSERIAL serial protocol translator. **Figure 4-25** on page 89 shows a detailed illustration of this process.

1. Configure the Panacea Router

Before you can make any connections to an IconMaster, the Panacea router must already be configured as desired. If your Panacea router is already operational, you do not need to configure it. If, however, your Panacea router is not already operational, you must install and configure it as desired for your facility. See the *Panacea Series Frame and Modules Installation, Configuration, and Operation Manual* for detailed information.

2. Make Connections on the Panacea and ICONM-BO-VAC Breakout Module

When using the ICONM-BO-VAC breakout module and multiple Panacea routers (multi-level), the audio output 1 from the level 1 Panacea router must be connected to **Bus A In 1** on the breakout module as indicated in **Figure 4-23**.

Figure 4-23 Audio 1, Level 1 Panacea Connection to ICONM-BO-VAC

Likewise, the audio output 2 from the level 1 Panacea router must be connected to **Bus B In 1** on the breakout module as indicated in **Figure 4-24**.

Figure 4-24 Audio 2, Level 1 Panacea Connection to ICONM-BO-VAC

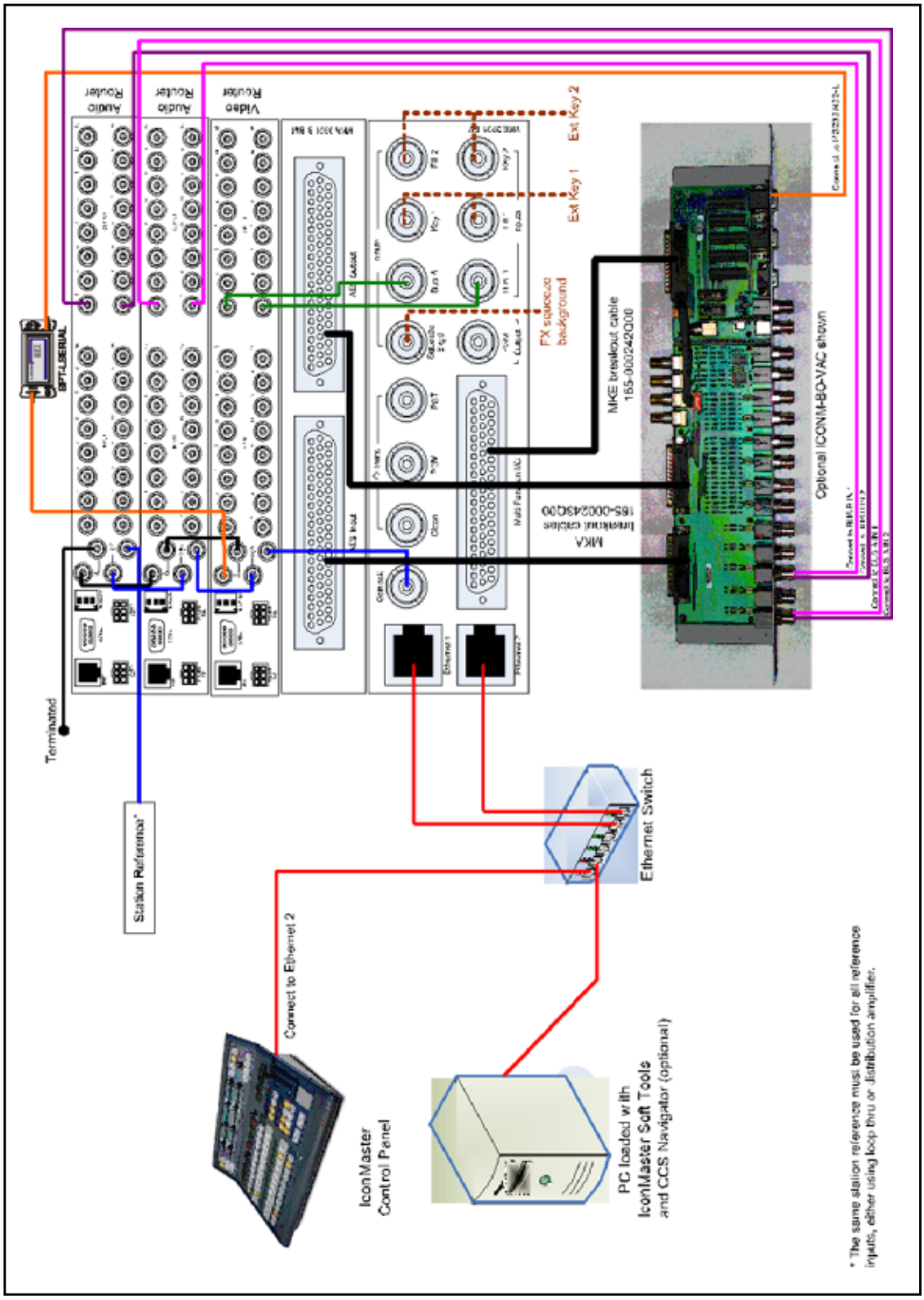

Audio Router
Audio Router
Video Router
SPT-LSERIAL
Ext Key 2
Ext Key 1
FX squeeze background
MKE breakout cable 165-000242Q00
Optional ICONM-BO-VAC shown
MKA breakout cables 165-000243Q00
Terminated
Station Reference*
Ethernet Switch
Connect to Ethernet 2
IconMaster Control Panel
PC loaded with IconMaster Soft Tools and CCS Navigator (optional)
* The same station reference must be used for all reference inputs, either using loop thru or distribution amplifier.

Figure 4-25 IconMaster System with External Panacea (Two Channel) Audio and Video Routers, Optional ICONM-BO-VAC Module, Optional SPT-LSERIAL

Audio output 1 from the level 2 Panacea router must be connected to **Bus A In 2** on the breakout module, as indicated in **Figure 4-26**.

Figure 4-26 Audio 1, Level 2 Panacea Connection to ICONM-BO-VAC

Audio output 1 from the level 2 Panacea router must be connected to **Bus B In 2** on the breakout module, as indicated in **Figure 4-27**.

Figure 4-27 Audio 2, Level 2 Panacea Connection to ICONM-BO-VAC

Audio outputs 3 and 4 from the Panacea level 3 and 4 routers connect to **Bus A** and **B In 3** and **4**, respectively.

When using the ICON-BO-VAB breakout module and a Panacea router (single level), audio output 1 from the Panacea router must be connected to **Input Bus A1** on the breakout module as indicated in **Table 2-10** on page 41.

Likewise, audio output 2 from the Panacea router must be connected to **Input Bus B1** on the breakout module as indicated in **Table 2-10** on page 41.

Audio output 1 from the level 2 Panacea router must be connected to **Input Bus A2** on the breakout module as indicated in **Table 2-10** on page 41.

Audio output 2 from the level 2 Panacea router must be connected to **Input Bus B2** on the breakout module as indicated in **Table 2-10** on page 41.

Audio outputs 3 and 4 from the Panacea level 3 and 4 routers connect to **Input Bus A** and **B, 3** and **4**, respectively.

3. Make Connections on the Panacea and MKE-3901

1. On the Panacea back module, connect a maximum of 16 video inputs to the BNC connections labeled **Input 1** to **Input 16**.
2. Connect **Output 1** on the Panacea to **Input Bus A** on the MKE-3901.
3. Connect **Output 2** on the Panacea to **Input Bus B** on the MKE-3901.
4. Connect your station reference to the **Sync** connection of the Panacea back module.
5. Terminate one of the **XY** BNC connectors on the Panacea router.
6. Connect the serial port of the Panacea router to **Serial Port E** in the **Multi Function I/O** connector on the MKE-3901.

This can be done by direct connection or via the ICONM-BO-V breakout module connection.

7 On the MKE-3901 back module, connect the **Key 1** input source to **Key 1** and **Fill 1** as appropriate.

8 On the MKE-3901 back module, connect the **Key 2** input source to **Key 2** and **Fill 2** as appropriate.

9 On the MKE-3901 back module, supply **Squeeze Bkgd** by an external router.

Note: *If you are connecting* ***Ethernet 1*** *to a switch, the IconMaster control panel must be connected to the same switch.*

10 Connect the two **Ethernet** ports as follows:

Ethernet 1 (connection for MKE-3901 control) to a switch using a straight-through Ethernet cable

Ethernet 2 (two connection options for MGI-3903 control and logo download)

- To the same switch as Ethernet 1 using a normal Ethernet cable
- To a dedicated switch used for the MGI functionality using a normal Ethernet cable

11 Power up the system.

4. Make Connections on the Panacea and SPT

The IconMaster is installed in the control line, as shown in the example in **Figure 4-25** on page 89.

- The maximum allowable distance for each segment of the X-Y coaxial cable run is 2,000 ft (609 m).
- The maximum length for each RS-232 segment is 50 ft (15 m).
- The maximum length for each RS-422 segment is 2,000 ft (609 m).
- Up to 64 additional serial ports may be added.

Figure 4-15 on page 79 shows the connector pin assignments on both ends of the connection (the cable wiring description is shown between the connectors). **Table 4-1** on page 79 shows the power requirements for the SPT-LSERIAL adaptors.

System Configurations—Platinum Routers

Note: *System configurations for NEO routers start on page 62. System configurations for Panacea routers start on page 62.*

This section describes the connections that are required in some typical configurations involving Platinum external routers. The following Platinum router configurations are described in this section:

- IconMaster System, External Platinum Video Router, Optional ICONM-BO-V Module
- Sample Configuration 2: IconMaster System, External Platinum Video Router, Optional HView SX Hybrid multiviewer, Optional JLCooper eBOX, Optional ICONM-BO-V Module

Sample Configuration 1: IconMaster System, External Platinum Router, Optional ICONM-BO-V Module

This section describes the connections that are required in a typical configurations involving Platinum external routers. **Figure 4-28** on page 93 shows a detailed illustration of this process.

1. Configure Platinum Router

Before you can make any connections to an IconMaster, the Platinum router must already be configured as desired. If your Platinum router is already operational, you do not need to configure it. If, however, your Platinum router is not already operational, you must install and configure it as desired for your facility. See the *Platinum Series Frames and Modules Installation, Configuration, and Operation Manual* for detailed information.

On your Platinum router configuration, make sure that you set the video and audio to different levels. For example, if you set the video level to "0," set the audio level to "1" or higher.

2. Make Connections between the Platinum and MKE-3901

1. On the Platinum router, connect the inputs to the input BNC connections on the appropriate Platinum modules.
2. Terminate the loop-thru (XY) BNC connectors on the communications back panel (PT-CBP).
3. Connect the first desired output on the PT-CBP to Input Bus A on the MKE-3901.
4. Connect second desired output on the PT-CBP to Input Bus B on the MKE-3901.
5. On the PT-CBP, connect the station reference to one connector on an available Sync connection.
6. On the MKE-3901 back module, connect the signal Squeeze Bkgd input to an output on the PT-CBP.

Note: *The Platinum router serial port baud rate must be set to 38400. IconMaster can control the Platinum over Ethernet.*

7. Connect an available serial port (SERIAL1 or SERIAL2) on the PT-CBP to Serial Port E in the Multi Function I/O connector on the MKE-3901. This can be done by direct connection or by ICONM-BO-V breakout module connection. When using the ICONM-BO-V breakout module, either serial port of the PT-CBP must be connected to the **RS-232/422-A**, **-B**, or **-E**

port on the breakout module as indicated in **Figure 4-29** on page 94.

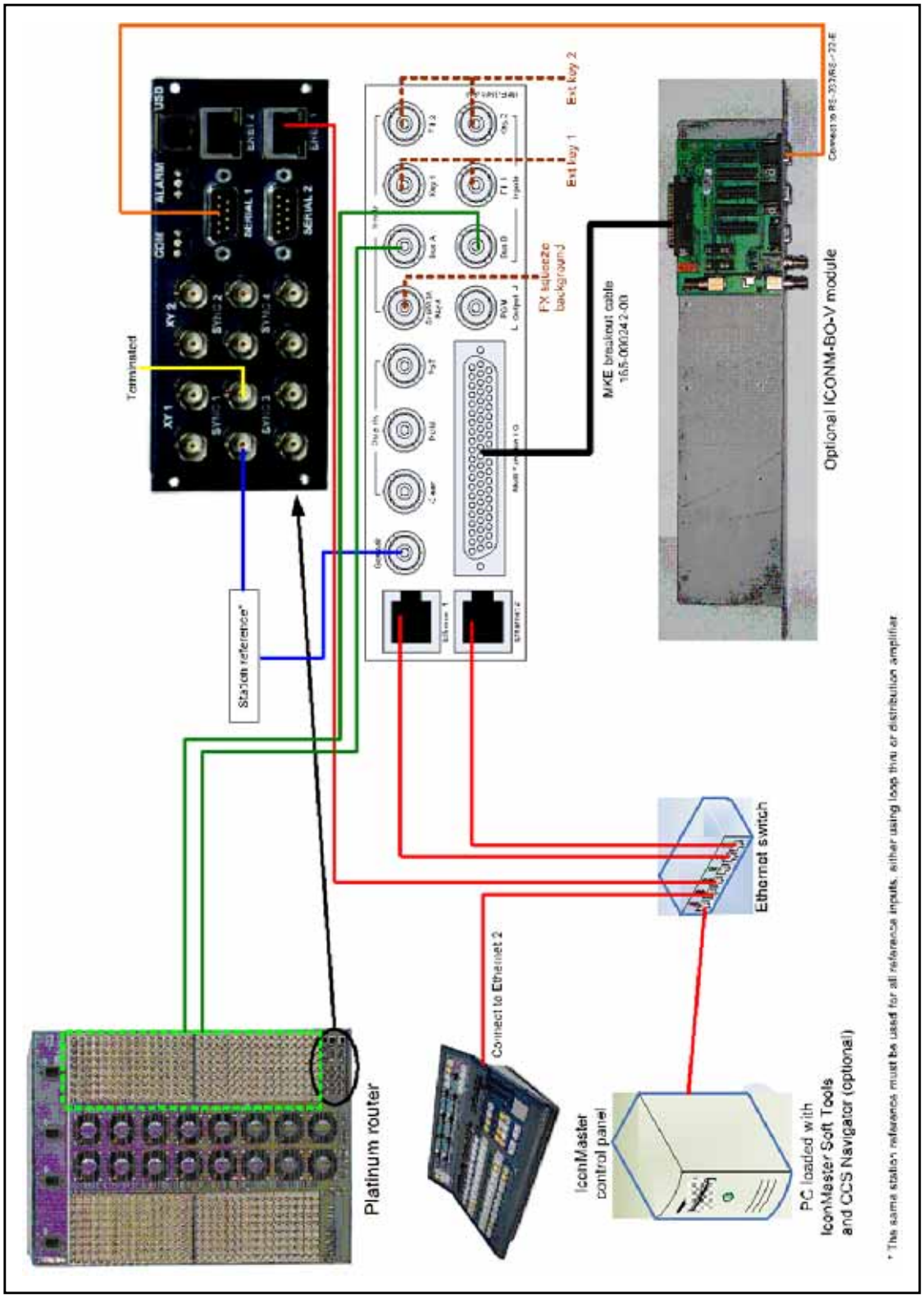

Terminated
Station reference*
MKE breakout cable
Optional ICONM-BO-V module
Ethernet switch
Connect to Ethernet 2
Platinum router
IconMaster control panel
PC loaded with IconMaster Soft Tools and CCS Navigator (optional)
* This same station reference must be used for all reference inputs, either using loop thru or distribution amplifier

Figure 4-28 IconMaster System with External Platinum Router Using Serial Control and Optional ICONM-BO-V Module

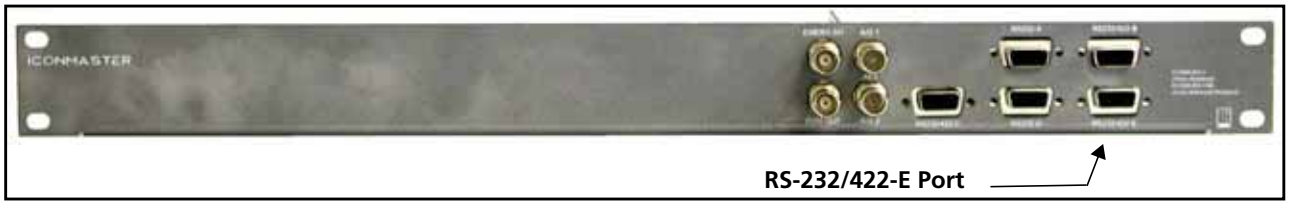


Figure 4-29 RS-232/422-E Port on the ICONM-BO-V Breakout Module

8 On the MKE-3901 back module, connect the Key 1 input source to Key 1 and Fill 1 as appropriate.

9 On the MKE-3901 back module, connect the Key 2 input source to Key 2 and Fill 2 as appropriate.

Note: *If you are connecting* ***Ethernet 1*** *to a network hub/switch, the IconMaster control panel must be connected to the same switch.*

10 On the MKE-3901 back module, connect the **Ethernet 1** connection for MKE-3901 control to a network hub/switch using a straight-through Ethernet cable.

11 On the MGI-3903 back module, two Ethernet connection options for MGI-3903 control and logo download as follows:

- To the same network/hub as Ethernet 1 using a normal Ethernet cable.
- To a dedicated switch used for the MGI functionality using a normal Ethernet cable.

12 Power up the system.

Sample Configuration 2: IconMaster System, External Platinum Router, HView SX Hybrid, JLCooper eBOX, ICONM-BO-V Module

This section describes the connections that are required in a typical configurations involving Platinum external routers. **Figure 4-30** on page 96 shows a detailed illustration of this process.

1. Configure HView SX Hybrid Module

Before you can make any connections to an IconMaster, the HView SX Hybrid multiviewer output module must already be installed and configured in the Platinum frame. See the *HView SX Hybrid Multiviewer Installation, Configuration, and Operation Manual* and the *HView SX Hybrid Layout Designer User Guide* for detailed information.

2. Set up eBOX to work with HView SX Hybrid

You will need to configure some settings for the multiviewer in your Layout Designer software before you can use the eBOX with HView SX Hybrid.

1 Right click on the HView SX Hybrid device in the Multiviewers window of Layout Designer.

2 Select **Advanced Configuration**.

3 Select the **External Devices** tab.

4 Select the desired HView SX Hybrid's "-1" configuration.

5 Under **Type**, select TSL Protocol.

6 Under **Port**, select TCP/IP.

7 Under **IP**, enter the IP address and port.

- The default IP is 192.168.254.102.

- The default port is 23.

8 Click **Add**.

9 Click **Done**.

3. Configure Platinum Router

Before you can make any connections to an IconMaster, the Platinum router must already be configured as desired. If your Platinum router is already operational, you do not need to configure it. If, however, your Platinum router is not already operational, you must install and configure it as desired for your facility. See the *Platinum Series Frames and Modules Installation, Configuration, and Operation Manual* for detailed information.

On your Platinum router configuration, make sure that you set the video and audio to different levels. For example, if you set the video level to "0," set the audio level to "1" or higher.

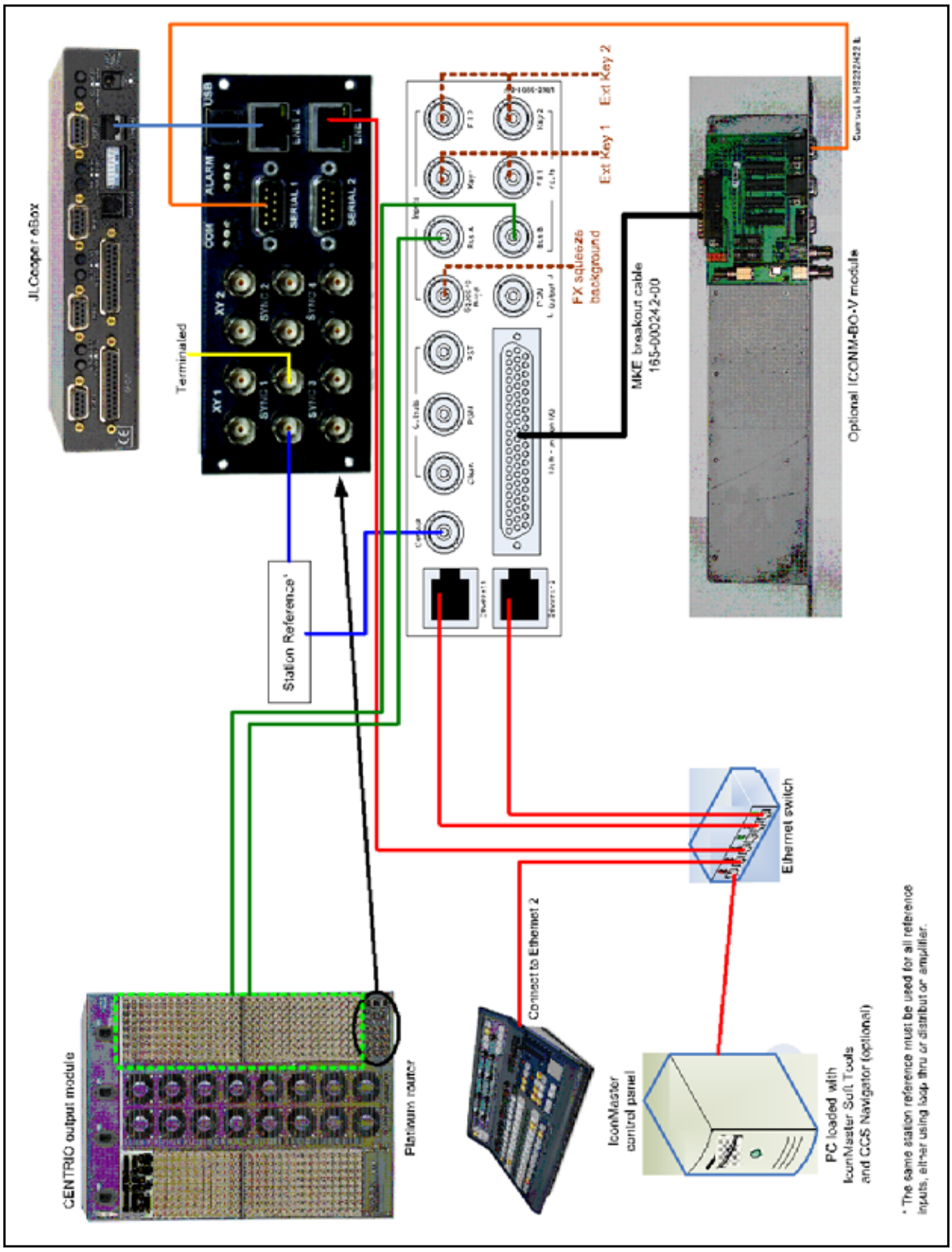

JLCooper eBox
Terminated
Station Reference*
FX squeeze background
Ext Key 1
Ext Key 2
MKE breakout cable
165-00024-00
Optional ICONM-BO-V module
Ethernet switch
Connect to Ethernet 2
IconMaster control panel
PC loaded with IconMaster Soft Tools and GCS Navigator (optional)
CENTRIO output module
Platinum router
* The same station reference must be used for all reference inputs, either using loop thru or distributor amplifier.

Figure 4-30 IconMaster System with External Platinum Router Using Ethernet Control, HView SX Hybrid, eBOX, and Optional ICONM-BO-V Module

4. Make Connections between HView SX Hybrid Multiviewer and JLCooper eBOX

Before you can make any connections to an IconMaster, the JLCooper eBOX must already be configuredto work with your multiviewer. For information about configuring your e-BOX, see your JLCooper eBOX documentation.

5. Make Connections between the Platinum and MKE-3901

1. On the Platinum router, connect the inputs to the input BNC connections on the HView SX Hybrid modules.
2. Terminate the loop-thru (XY) BNC connectors on the communications back panel (PT-CBP).
3. Connect the first desired output on the PT-CBP to Input Bus A on the MKE-3901.
4. Connect second desired output on the PT-CBP to Input Bus B on the MKE-3901.
5. On the PT-CBP, connect the station reference to one connector on an available Sync connection.
6. On the MKE-3901 back module, connect the signal Squeeze Bkgd input to the output on the PT-CBP.

Note: *The Platinum router serial port baud rate must be set to 38400.*

7. Connect an available serial port (SERIAL1 or SERIAL2) on the PT-CBP to Serial Port E in the Multi Function I/O connector on the MKE-3901. This can be done by direct connection or by ICONM-BO-V breakout module connection. When using the ICONM-BO-V breakout module, either serial port of the PT-CBP must be connected to the **RS-232/422-A**, **-B**, or **-E** port on the breakout module as indicated in Figure 4-31.

Figure 4-31 RS-232/422-E Port on the ICONM-BO-V Breakout Module

8. On the MKE-3901 back module, connect the Key 1 input source to Key 1 and Fill 1 as appropriate.
9. On the MKE-3901 back module, connect the Key 2 input source to Key 2 and Fill 2 as appropriate.

Note: *If you are connecting* ***Ethernet 1*** *to a network hub/switch, the IconMaster control panel must be connected to the same network.*

10. On the MKE-3901 back module, connect the **Ethernet 1** connection for MKE-3901 control to a network hub/switch using a straight-through Ethernet cable.
11. On the MGI-3903 back module, two Ethernet connection options for MGI-3903 control and logo download as follows:
    - To the same network/hub as Ethernet 1 using a normal Ethernet cable.
    - To a dedicated switch used for the MGI functionality using a normal Ethernet cable.
12. Power up the system.

5 Configuring IP Addresses

Setting the IP Address for the MKE-3901 Module

1. Press the left (**Esc**) button until the message **MKE3901** appears on the VFD display.
2. Press the right (**Enter**) button.
3. Use the toggle switch (**Nav**) to scroll through the parameter list until **Status** is highlighted.
4. Press the right (**Enter**) button.
5. Use the toggle switch (**Nav**) to scroll through the parameter list until **Other** is highlighted.
6. Press the right (**Enter**) button.
7. Use the toggle switch (**Nav**) to scroll through the parameter list until **IP_Address** is highlighted.
8. Press the right (**Enter**) button.
9. Continue pressing the right (**Enter**) button until the cursor is under the digit you want to change.
10. Use the toggle switch (**Nav**) to change the digit.
11. Press the right (**Enter**) button to move to the next digit.
12. Repeat the previous three steps until you have changed the IP address.
13. Press the right (**Enter**) button until the cursor is under the space at the end of the IP address.
14. Press the left (**Esc**) button to accept the change.

Setting the IP Address for the MGI-3903 Module

1. Press the left (**Esc**) button until the message **MGI-3903-R** appears on the VFD display.
2. Press the right (**Enter**) button.
3. Use the toggle switch (NAV) to scroll through the parameter list until **IP_Address** is highlighted.
4. Press the right (**Enter**) button.
5. Continue pressing the right (**Enter**) button until the cursor is under the digit you want to change.
6. Use the toggle switch (**Nav**) to change the digit.
7. Press the right (**Enter**) button to move to the next digit.
8. Repeat the previous three steps until you have changed the IP address.
9. Press the right (**Enter**) button until the cursor is under the space at the end of the IP address.

10 Press the left (**Esc**) button to accept the change.

Changing the Control Panel IP Address

1 To access the service menu:

- On an ICONM-RCP, simultaneously press all four LCD buttons in the center Parameter Control Cluster
- On an ICONM-RCP16 panel, press the right control knob

2 Turn the left scroll knob until the PNL IP ADDR parameter appears.

Reading from left to right, you will see a display of the control panel's current IP address.

3 Select the button that contains the IP address component that you want to change, and then turn the right scroll knob to change the number on that button.

4 After you enter the last digit of the IP Address, press the right knob to save the new IP Address.

5 When finished, turn the left scroll knob until the PUSH EXIT parameter appears.

Set the IP Address for the 3901RES-E Module

To use CCS-P control and monitoring of your IconMaster master control switcher, Navigator and NUCLEUS operate through the frame's optional 3901RES-E module.

To change the resource module network settings, at least one of the processing modules in the frame must support the **Frame IP** feature.

Note: *The IRB-3901, GPI-3901, and MGI-3901 NEO modules do not support* ***Frame IP****. Some older NEO modules that have not been upgraded also do not support this feature.*

To configure the IP address for this module, follow these steps:

1 Using the card-edge of a NEO processing module in the same frame as the resource module, scroll down and then select the **Setup** menu at the end of the parameter list.

2 Select **Frame IP**, and then press the **Enter** button.

3 Select **IP Address**, and then press the **Enter** button.

The card-edge screen shows the current IP Address of the active resource module.

If the message **Not Supported** appears, correct the problem by ensuring that the active resource module's **SW2 DIP 8** is in the down position.

4 Using the **Enter** button, scroll to the digit in the IP Address.

5 Press the toggle switch up or down to change the IP number, and then scroll past the end of the number to accept the change.

The following tips will help you enter an IP address:

- To backspace from the selected number in the IP to the one before it, scroll using the **Nav+/Nav-** until you reach the back arrow (◄—), and then press the **Enter** button.

- Delete the selected number in the IP by scrolling using the **Nav+/Nav-** switch until the delete character (ⓧ) is displayed, and then press the **Enter** button.
- (The delete character is located after the number "0")
- Use **Nav+** (up) to scroll up through numbers, increasing the selected number.
- Use **Nav-** (down) to scroll down through numbers, decreasing the selected number.

6 Press the **Escape/Exit** button, and then repeat the number changing process for the Subnet and Gateway if necessary.

7 Press the **Escape/Exit** button twice to send the new IP Address to the resource module.

8 Reboot the resource module by pulling it out of its slot and reinserting it.

9 Confirm the resource module's corrected IP Address by again using the card edge to verify the IP Address, Subnet, and Gateway IP settings. Then ping the resource module via the PC, as described in the following steps:

a Click **Start**, point to **Programs** > **Accessories** and then click **Command Prompt** to open the **Command Prompt** window on the PC.

b After the command prompt, type the following message, and then press ENTER:

```
ping 192.168.248.50 (or the actual IP Address of your resource module)
```

The message should reply back. If the ping does not work, see ***Troubleshooting*** on page 207.

Initializing IconMaster

Once you have completed the system wiring, the following settings are

required:

- Network settings
- Operating standard
- System timing

Network Settings

The default IP address will function correctly in a "one frame and one panel" configuration if both frame and panel are connected to the same switch that is not connected to a network server or router.

If you have changed the IP address on the card edge of the MKE-3901 module, you must make the same change in the Network dialog box in the ICU software (see page 164).

To change the network settings of the IconMaster control panel, refer to the Panel Network Configuration dialog box in ICU software (see page 172). Alternatively, you can use the Service Menu change the IP address of the IconMaster control panel on the panel itself. Refer to the *IconMaster Functional Operation and Configuration Manual* for more information.

Operating Standard

To change the operating standard, use the **Genlock and Standards** dialog box in the ICU software (see page 156).

Note: *When changing between HD operating standards (for example, from 1080I to 720P), you must repower the IconMaster.*

System Timing

To make changes to the IconMaster timing, use the **Genlock and Standards** dialog box in the ICU software (see page 156).

6 Connecting an IconMaster to an EAS Device

Overview

The federal Emergency Alert System (EAS) enables broadcasters, cable providers, and emergency managers to receive, store, forward, and originate emergency alert messages as required by the Federal Communications Commission. EAS allows broadcast stations, cable systems, participating satellite companies, and emergency managers, and other services to send and receive emergency information quickly and automatically, even if these facilities are unattended. Specially equipped devices decode EAS messages for distribution.

The IconMaster can be connected directly to an EAS encoder/decoder or character generator, thus enabling you to insert emergency notification messages directly into the broadcast stream as a regular scrolling text crawl.

An external EAS receiver is required to allow this feature to become operational.

Communication Protocols

The IconLogo currently supports three communication protocols employed by EAS devices: TFT[1], Sage[2], and Gorman-Redlich (GR)[3].

RS-232 Connection

The EAS device is connected to the RS-232-D port on the IconMaster ICONM-BO-V breakout module. See **Table 2-8** on page 38 for pinout details. If the IconMaster ICONM-BO-V breakout module is not being used, the EAS device must be wired directly to the Multi-Function I/O connector on the MKE-3901-BM (see **Figure 2-25** on page 27). Pins 57 (RS-232-D-RX) and 58 (RS-232-D-TX) are reserved for this purpose. See **Table 2-3** on page 28. (One ground connection is also required.)

Configuring the EAS Device

EAS devices need to be set to 9600 baud and Standard or Generic CG protocol in order to work correctly with IconMaster.

For basic configurations and preparations please see the specific EAS device user manual. No additional special settings are needed to communicate with an IconMaster. The standard signal will be taken out from the EAS device's serial port.

[1] "TFT" is a trademark of TFT Inc., San Jose, California.
[2] "Sage" systems are products of Sage Alerting Systems, Rye Brook, New York.
[3] Gorman-Redlich Manufacturing Co., Athens, Ohio.

IconMaster can be configured two different ways when using IconMaster's Audio Over to insert the EAS audio message into the program stream.

An important consideration is that the EAS audio message is not always the same duration as the EAS logo message.

Method 1 (preferred): IconMaster controls EAS logo insertion and EAS audio insertion separately.

1. Configure the EAS receiver to output a GPI output for the duration of the audio message.
2. Connect this GPI output to an IconMaster GPI input, and configure IconMaster to use this GPI input as Key to Air (as in **Figure 6-1**) so that the EAS Box can hold the Audio Over active for the duration of the EAS audio message.

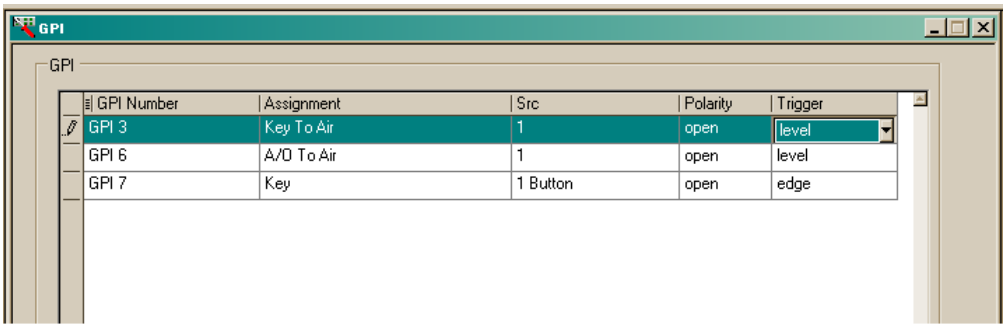


Figure 6-1 GPI Settings for EAS Logo Insertion

3. Ensure that the EAS Audio setting in the **System Configuration** menu is set to NONE.

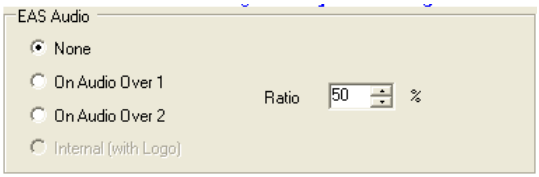


Figure 6-2 EAS Audio Settings in the System Configuration Menu

With these settings, IconMaster will enable the selected Audio Over whenever the GPI input is triggered, and for as long as the GPI input is triggered. The duration of the Audio Over key is **independent of the duration of the EAS message**.

Method 2: IconMaster controls EAS logo and audio together.

IconMaster can be configured to automatically enable an Audio Over when an EAS message is received.

The following menu can be found in the ICU **System Configuration** screen, and shows that Audio Over 1 will automatically be keyed into PGM video when an EAS message is received, and only **for the duration of the EAS message**.

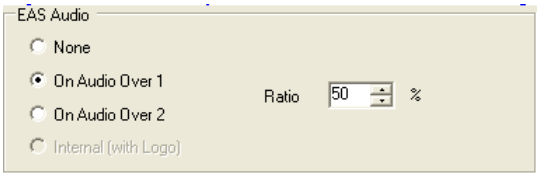


Figure 6-3 EAS Audio Settings in the System Configuration Menu

Creating an EAS Text Crawl

The following steps are involved in setting up EAS.

1. Create fonts using Content Editor.
   See ***Using the Font Utility*** on page 159.

2. Create a Text Crawl in Logo Soft Panel.
   See ***Configuring a Text Crawl or Text Titling*** on page 107.

3. Create a Quick Select logo.
   See ***Logo Number*** on page 88.

4. Select **Eng** > **More** > E**AS Logo**, enter the number of the text crawl logo you created (in Step 2) in the **TextLogo** field, and then press **QuickSelect**.
   See ***EAS Logos1*** on page 127.

5. Select **Eng** > **More** > **EAS Protocol** and choose the EAS protocol your system uses.
6. (Optional) Configure EAS audio on the **System Config** screen in the IconMaster Configuration Utility (in the section of the screen labeled **EAS Audio**).
   If you want audio triggered by GPI from the EAS receiver (so it does not get cut off if it is longer than the text crawl), select **None** and then configure a GPI as follows.

   a On the IconMaster Configuration Utility, select **GPI**, and then click **Add GPI**.
   b Select the number of the GPI you want to configure, and make the following settings:
   - **Assignment**—A/O to Air
   - **Polarity**—Open
   - **Trigger**—Level

   c Save the configuration and download it to the frame.

7 Machine Control

Connecting for Machine Control Use

Note: *You cannot use this configuration on a network.*

The serial connector RS-232-A on the ICONM-BO-V video breakout module is dedicated for machine control use. To connect the IconMaster system to a VTR, follow these steps.

1. Using a straight-through RS-232 serial cable, connect **RS-232-A** on the ICONM-BO-V video breakout module to the serial connector on an SPT-LSERIAL or an SPT-LXYTOXY serial protocol translator.

Note: *If re-assigned to port B or port E, use a null-modem cable instead of this straight-through cable.*

2. Using a coaxial cable, connect **COAX** on the SPT to **COAX** on the VTR specific SPT. (For example, if you are connecting to a Sony VTR, you would be using an SPT-LXYTOSONY.)
3. Using an RS-422 serial cable, connect the serial connector on the SPT to the VTR.
4. Follow the VTR manufacturer's instructions for other connections to the IconMaster system.

Figure 7-1 shows a sample connection using a Sony tape machine.

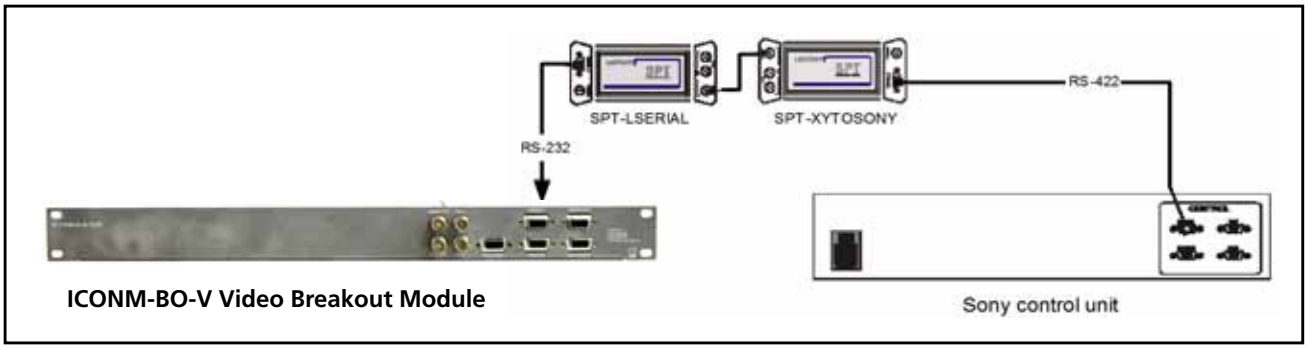


Figure 7-1 Sample Sony Machine Control Connections

Edge Protocol Gateway

The Edge protocol gateway provides external connectivity to any Leitch/Imagine Communications routing system. It translates between Leitch/Imagine Communications and other manufacturers' routing control systems. On an IconMaster system, the Edge would be connected to either a Panacea or a Platinum router to access third-party protocols and commands.

Before you can make any connections to an IconMaster, the Edge must already be configured as desired. If your Edge is already operational, you do not need to configure it. If, however, your Edge is not already operational, you must install and configure it as desired for your facility. See the *Edge Protocol Gateway Installation and Frame Configuration Manual* for detailed information.

You can use an Edge to allow the IconMaster to "talk" to certain third party routing systems. See the *Protocol Translation Functions Firmware Installation, Configuration, And Operation Manual* for a list of supported third-party protocols and commands.

8 Automation Setup

Connecting a DAL Automation System to IconMaster

The following information is specific to a DAL Automation system used with the McCurdy SER-8-IF serial breakout box, and may not apply to any other automation system setups.

1. Using the cable provided, connect the DAL Automation System to port **J19** on the McCurdy SER-8-IF serial breakout box.
2. Choose one of the following options:
   - *If using the IconMaster ICONM-BO-V breakout module*, connect port **RS-232/422-B** on the ICONM-BO-V module to the port on the McCurdy SER-8-IF serial breakout box configured for automation. See **Table 2-8** on page 38 for pinouts. See **Table 2-2** on page 23 for setting the serial port standard.

IconMaster			RJ45 Port Pinouts*	McCurdy Breakout	
Pin	**Function**			**Pin**	**Function**
2	TX- (data sent by router)	<===>	6	5	Rx -
3	RX+ (data received by router)	<===>	1	8	Tx +
7	TX+ (data sent by router)	<===>	3	4	Rx +
8	RX- (data received by router)	<===>	2	9	Tx -

* For use with SER16 D-Series adapter

   - *If connecting directly to the IconMaster system*, connect the multifunction I/O on the MKE-3901-BM to the port on the McCurdy SER-8-IF serial breakout box configured for automation. See **Table 2-8** on page 38 for pinouts. See **Table 2-2** on page 23 for setting the serial port standard.

IconMaster			RJ45 Port Pinouts*	McCurdy Breakout	
Pin	**Function**			**Pin**	**Function**
20	RSxx2-B TX -	<===>	6	5	Rx-
14	RSxx2-B RX +	<===>	1	8	Tx+
41	RSxx2-B TX +	<===>	3	4	Rx+
15	RSxx2-B RX -	<===>	2	9	Tx-

* For use with SER16 D-Series adapter

D-Series System Capabilities With IconMaster

The ADC-100 playout automation includes support for controlling the IconMaster master control switcher.

The following IconMaster capabilities are supported:

- Transitions between main sources (V-fade, cut-fade, fade-cut, and mix) at three predefined speeds (slow, medium and fast) in addition to cuts.
- Audio-Overs with either of two external inputs
- Control of the six IconMaster keyers (two using external key/fill source, four using the internal logo store).
- Selection of logos from the IconMaster's internal logo store (this requires configuring a corresponding source machine entry in the source specification table src.tbl.
- Control of effects (this is not functioning correctly with IconMaster firmware v1.4).

Audio-video breakaways not supported: Although the IconMaster supports audio-video breakaways under certain circumstances, using an audio-video break away interferes with IconMaster functions, so the D-Series interface does not support using this capability.

The IconMaster should be running firmware release 1.4 or later. This interface will not function properly with earlier IconMaster firmware versions.

Configuration

Serial Port Configuration in port.cfg

Serial Port

Configure the serial port used to communicate with the IconMaster with

USAGE=swr***n*** SPEED=38400 NDATA=8 PARITY=NONE NSTOP=1 DUPLEX=FULL HANDSHAKE=NONE,

where ***n*** is the index of the swr.tbl entry describing the IconMaster switcher.

Breakout Module Connection

Connect the automation serial port to the connector labeled RS232/422-B on the IconMaster breakout module.

- This port can be configured for either RS-232 or RS-422 connections.
- Ensure both jumper J18 of the MKE-3901 board and the jumper pack A1 on the breakout module are both set to match the appropriate serial communication standard (normally RS-422 for a D-MAS system using McCurdy SER-4, SER-8 or SER-12 card via a CON-8 or MUX8/800).

Switcher Configuration in swr.tbl

An IconMaster switcher requires the following settings in the swr.tbl specification table.

Table 8-1 swr.tbl Specification Settings

swr.tbl Field	Set to
Switcher type	ICONMASTER
Description	Text describing switcher
Parameter	Leave Blank
Number of Outputs	1
Number of program inputs	Number of valid inputs (between 1 and 12)
Number of program levels	1
Number of over inputs	1 for a single audio-over input, or 2 if both audio-over inputs are used
Number of over levels	9
Switcher Latency time	blank (or a time in format ss:ff)

Level Mappings for IconMaster

The automation main audio and video levels are always mapped to the audio and video levels of the IconMaster. The mapping of D-MAS subevent fields and switching levels to the keyers, audio mixer and DVE engine of the IconMaster is controlled by the Switcher Level n fields in swr.tbl.

If a Switcher Level n field is left blank, the corresponding facility of the IconMaster is not associated with an automation switching level and is not used.

Table 8-2 swr.tbl Mapping

swr.tbl Field	Maps Requests to
Switcher Level 1	Keyer 1 (external source)
Switcher Level 2	Keyer 2 (external source)
Switcher Level 3	Keyer 3 (internal logo source)
Switcher Level 4	Keyer 4 (internal logo source)
Switcher Level 5	Keyer 5 (internal logo source)
Switcher Level 6	Keyer 6 (internal logo source)
Switcher Level 7	DVE/Squeezeback engine
Switcher Level 8	Voice-Over Mixer

Switcher Configuration in bus.tbl

To allow the IconMaster to receive switching requests for events on a specific bus, there must be a corresponding entry in the bus.tbl record to map the D-MAS switching level on that bus to the IconMaster: (The switcher number field has the swr.tbl index of the IconMaster, and the output number field is set to 1).

Table 8-3 Mapping of bus.tbl switcher Fields to D-MAS Switching Levels

bus.tbl field	D-MAS switching level
Switcher number	A Audio and V – Video
DSK 1 switcher number	D1 – Over Video 1
DSK 2 switcher number	D2 – Over Video 4
DSK 3 switcher number	D3 – Over Video 5
DSK 4 switcher number	D4 – Over Video 6
Logo switcher number	L1 – Over Video 2 (aka L or Logo)
Logo 2 switcher number	L2 – Over Video 7
Audio over 1 switcher number	O – Over Audio
Audio over 2 switcher number	O2 – Over Audio 2
Effect switcher number	E – Over Video 3 (aka Effect)

Source Configuration in src.tbl

The internal logo store of the IconMaster (associated with keyers 3-6) can be controlled as a source by D-MAS. This allows D-MAS to control which internal logo is associated with each of these keyers. If no source control is configured for a particular internal keyer, then that keyer displays whatever logo was last configured manually.

Table 8-4 Settings in src.tbl for IconMaster Internal Logo Store Sources (Keyers 3-6)

Field	Value
Switcher number	Index of the IconMaster entry in swr.tbl
Main source main audio input number	1
Main source main video input number	1
Source Type	Source type associated with a specific sub-event used to map source to a keyer (normally one of D1, D2, D3, D4, L1 or L2). This should match the setting for corresponding "Switcher level n" entry for the keyer in swr.tbl (where n=3, 4, 5 or 6).
Machine control type	ICM
Machine control index	Index of the IconMaster entry in swr.tbl
Default control number	11 (i.e. ready and start control)
Ready time	A suitable time (a few seconds is ample)

Operation Notes

When the corresponding source entry is specified in the appropriate subevent, the corresponding material ID field accepts numeric entries between 1 and 999 to specify an internal logo from the IconMaster logo store (there is no checking to ensure a specific logo number actually exists).

At the ready time, a request is issued to load the specified logo number, unless the keyer is already active on the IconMaster's PGM bus (in which case, the logo is not loaded until start time).

Configuration for Squeezeback and DVE Effects

The IconMaster supports up to 16 squeezebacks or DVE effects that are preconfigured (i.e. the details of the effect can not be controlled from D-MAS). DVE transitions are not supported.

Note: *Currently, only a single upstream router may be defined for the IconMaster. Thus, if an IconMaster is using explicit routing for both program and effect sources, the program and effect sources must be on the same upstream router.*

The IconMaster has a dedicated DVE input; labeled "Squeeze Bkgd" on the breakout panel. A source may be directly connected to this input, or any of several sources may be routed to it if the IconMaster is configured to use an upstream router.

Table 8-5 Settings in swr.tbl for Explicit Upstream Routing of Effect Sources

Field	Value
1st effect input from upstream routing switcher	1
1st effect output on upstream routing switcher	The output number on the upstream switcher connected to the IconMaster's Squeeze Bkgd input.

Describing an Effect transition in ovrtrans.tbl

IconMaster effect subevent transitions are defined by entries in ovrtrans.tbl.

Table 8-6 Effect Transition Settings for IconMaster Entries in ovrtrans.tbl

Field	Value
Custom Transition/Effect Number	Sequential, starting at 1 (not used by D-MAS)
Switcher Type	ICONMASTER
Transition/Effect Name	A name for the transition/effect. This value must be entered in the EFFECT_TRANSITION field to initiate this effect. All transitions for the same switcher type must have unique names.
Description	Text describing the effect (not used by D-MAS)
DVE Transition?	N

Table 8-6 Effect Transition Settings for IconMaster Entries in ovrtrans.tbl *(Continued)*

Field	Value
"Squeeze and Reveal" (R) or Stretch and Conceal (C)	Ignored for ICONMASTER (leave blank)
Beginning DVE squeeze preset	The predefined IconMaster effect to perform (an index between 1 and 16 inclusive)
Beginning transition or DVE squeeze duration (mm:ss:ff or S/M/F)	The transition rate to use (S, M, or F)
Horizontal wipe on beginning transition?	Ignored for ICONMASTER (leave blank)
Vertical wipe on beginning transition?	Ignored for ICONMASTER (leave blank)
Reverse wipe direction on beginning transition?	Ignored for ICONMASTER (leave blank)
Ending DVE squeeze preset	This should have the same value as the "Beginning DVE squeeze preset" field
Ending transition or DVE squeeze duration (mm:ss:ff or S/M/F)	This should have the same value as the "Beginning transition or DVE squeeze duration (mm:ss:ff or S/M/F)" field
Horizontal wipe on ending transition?	Ignored for ICONMASTER (leave blank)
Vertical wipe on ending transition?	Ignored for ICONMASTER (leave blank)
Reverse wipe direction on ending transition?	Ignored for ICONMASTER (leave blank)
Number of transitions used in effect	2
Effect audio from background (on-air) or foreground (effect)	B (The IconMaster does not support audio from effect sources)
Audio transition is mix (foreground audio effects)	N (although not used by the IconMaster driver, this field may not be left blank)
Audio transition rate (foreground audio effects only)	Ignored for ICONMASTER (leave blank)
Over mix mixer (blank if not over mix)	Ignored for ICONMASTER (leave blank)
Input A duck level (-100 – 0)	Ignored for ICONMASTER (leave blank)
Input B over level (0 – 28)	Ignored for ICONMASTER (leave blank)
Time before transition to re-route video	Ignored for ICONMASTER (leave blank)
Time between effects for DVE transition	Ignored for ICONMASTER (leave blank)
Delay before starting 2nd background effect source	Ignored for ICONMASTER (leave blank)
Delay before starting 3rd background effect source	Ignored for ICONMASTER (leave blank)

Configuring IconMaster to Ignore Automation Commands on Specific Key Layers

Note: *This feature is supported in IconMaster (MKE) software release 2.2 and greater.*

The IconMaster is designed to operate from a single point of control. Normally, this will be either the RCP remote control panel, or by automation. The IconMaster does not support control by the RCP and automation independently at the same time. These devices can both control the IconMaster at the same time, however, and the IconMaster will operate as if the two control paths were one, using a single shared device.

To support the split use of IconMaster keyers between manual RCP operations and automation operations, the IconMaster can be setup to ignore automation commands for specific key layers. If this mode is configured, any automation commands which affect the ignored keyers will be ignored.

Setting Up Automation Key Masks

A key "mask" is a specific bit field in which each keyer is given a bit position, and the bit field is encoded to select which keyer layers will be respected by automation and which will be ignored.

- Bit 0 of the key mask is for Keyer 1 (first external keyer)
  A value of 0 allows automation to control the keyer.
  A value of 1 forces automation to ignore the keyer.
- Bit 1 of the key mask is for Keyer 2 (second external keyer)
- Bit 2 of the key mask is for Keyer 3 (first internal logo keyer)
- Bit 3 of the key mask is for Keyer 4 (second internal logo keyer)
- Bit 4 of the key mask is for Keyer 5 (third internal logo keyer)
- Bit 5 of the key mask is for Keyer 6 (fourth internal logo keyer)

The key mask is encoded as a byte, in the format 0xHH, where HH is the hex encoded key mask.

For example:

- A key mask of 0x00 (all zeros) is the default key mask, and will allow automation control of all keyers.
- A key mask of 0x0F will allow automation control of keyers 5 and 6, and will disallow automation control of keyers 1 through 4.
- A key mask of 0x30 will allow automation control of keyers 1 through 4, and will disallow automation control of keyers 5 and 6.

Procedure

To set up a key mask in IconMaster, perform the following steps from a MS-Windows computer connected to the same network as your IconMaster system:

1. Open a command prompt window by selecting the <**Start**> button at the bottom left of the screen. Select the RUN menu item, and then type `cmd` in the field.
2. Press **OK**. A command prompt window will appear.

3 Begin a telnet session by typing `telnet xxx.xxx.xxx.xxx` (`xxx.xxx.xxx.xxx` = the IP address of the IconMaster's MKE-3901 module).

4 Type `leitch` as the username.

5 Type `LeitchAdmin` as the password.

6 To display the current automation key mask, type `getAutoKeyMask`, and then press <**Enter**>. The hex encoded key mask will be displayed, along with the IconMaster's interpretation of the code.

For example:

-> `getAutoKeyMask`

`Auto Key Mask: 0x30`	Displays the current hex encoded key mask
`Bit 0 - Key1: 0`	Displays the status of keyer 1: 0 = keyer under automation
`Bit 1 - Key2: 0`	Displays the status of keyer 2: 0 = keyer under automation
`Bit 2 - Key3: 0`	Displays the status of keyer 3: 0 = keyer under automation
`Bit 3 - Key4: 0`	Displays the status of keyer 4: 0 = keyer under automation
`Bit 4 - Key5: 1`	Displays the status of keyer 5: 1 = keyer automation ignored
`Bit 5 - Key6: 1`	Displays the status of keyer 6: 1 = keyer automation ignored

Ignore the "value =" return line.

7 To set the current automation key mask, type `setAutoKeyMask 0xHH` and then press <**Enter**>. (`HH` is the hex-encoded key mask [i.e., `0x30`]. Include the `0x` [zero and x] characters when entering the hex number. Again, ignore the "value =" return line.)

8 To verify the current automation key mask, type `getAutoKeyMask`, and then press <**Enter**>.

9 To end the Telnet session, press <**Ctrl**> + **]** (closing square bracket), and then type **quit**.

The following screen shows the above process, where the IconMaster begins with a key mask of 0x30 (masking/ignoring keys 5 and 6), and is changed to a key mask of 0x18 (masking/ignoring keys 4 and 5).

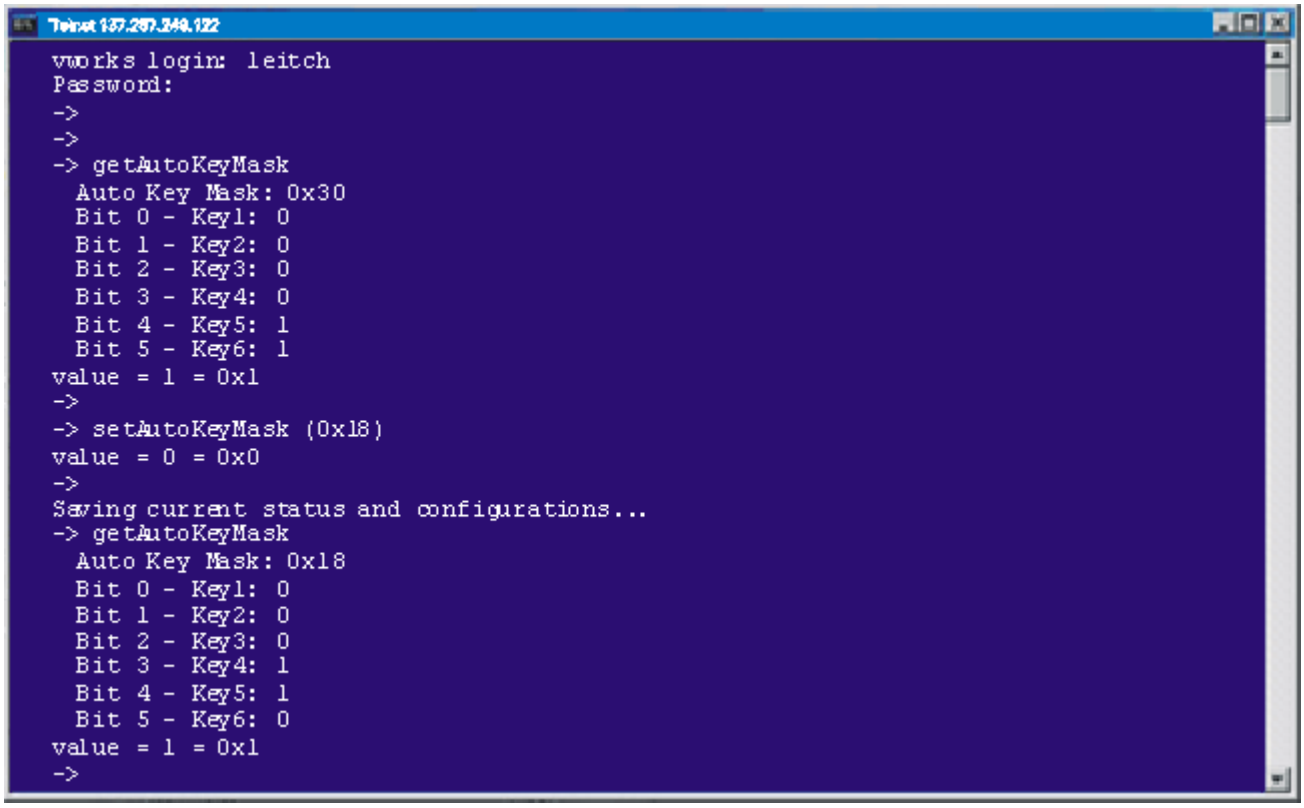


Figure 8-1 The `getAutoKeyMask` Process

Important Considerations for Automation Key Masks

The most common reason for automation key masks is to allow the manual control of some key layers, while automating the remaining key layers.

It should be noted that the IconMaster is designed for single-user operation. The "user" may be a manual operator using the RCP control panel, or it may be an automation system. The IconMaster system does not distinguish between manual and automation users.

When a user enables a key layer for the next transition, that layer is enabled regardless of which user initiates the next transition via the **TAKE** button or automation **TAKE** command. If a manual RCP user enables a key layer and the automation system enables a different key layer, the next **TAKE** will transition both keys.

The issue listed above will only be a problem if manual operations are done at the same time as automated operations. The following simple, but effective, workaround should be followed to ensure that automated **TAKE** and manual **TAKE** operations do not conflict.

All manual operations should follow these simple steps from the IconMaster's RCP control panel.

1. Press the **HOLD** button to disable automation control.
2. Verify only the keyers you wish to transition manually are enabled. Normally, RCP keyer enables will follow automation control, so this step is important.

3 Press the **TAKE** button to perform the transition on only the selected keyers.

4 Deselect the key layers being controlled manually. This step is important, as the next automation **TAKE** operation will affect any keyers which are enabled for transitions.

5 Press the **HOLD** button to enable automation control.

Steps 1 and 5 above will safeguard against automation coming in while manual operations are being set up and executed.

Automation Considerations

If a keyer is masked via the Automation Key Mask, the following automation commands will have no effect on the key layer:

- KEY_ENABLE0x0B
- KEY_MOD0x0A
- LOGO_SELECT0x51
- LOGO_SELECT_KEY0x71

Although the IconMaster will respond with ACKNOWLEDGE responses to these commands, the commands will be ignored by IconMaster. This has been done in order to avoid having automation systems invoke recovery procedures if they receive a NAK response.

9 Configuring IconMaster

Overview

IconMaster Configuration Utility, or ICU, software is an easy-to-use Windows®-based application for setting up and configuring the IconMaster hardware system. It allows you to control configuration of input/output functions; audio, effects, and transitions; system components; and panel components through on-screen menu selections.

IMPORTANT! **You may or may not have access to the ICU software. If you do not, you must ask your system administrator to perform these operations for you.**

- ***Installing ICU Software*** on page 119
- ***Starting ICU*** on page 123
- ***Initializing IconMaster*** on page 124
- ***Managing ICU Databases*** on page 125
- ***Input/Output Group Settings*** on page 127
- ***Functional Group Settings*** on page 137
- ***Control Group Settings*** on page 149
- ***System Config Group Settings*** on page 156
- ***Panels Group Settings*** on page 172
- ***Quick Configuration Quick Reference Chart*** on page 180

This chapter presupposes that you are familiar with the layout of an IconMaster control panel. If you are not, please refer to your *IconMaster Functional Operation and Configuration Manual* for more information.

Note: *Changes made in the IconMaster Configuration Utility will not take effect on an IconMaster Switcher until the database has been uploaded to the IconMaster frame. See page 127 for instructions.*

The quick reference chart on page 180 shows the control panel clusters, the functions that fall within each cluster, and the IconMaster configuration utility dialog box that allows you to configure that particular function.

Installing ICU Software

In order to have a fully functioning IconMaster control panel, you must use ICU to configure it. Here are the steps involved in a full installation:

1. Check the system requirements (page 121)
2. Assemble the tools you'll need (page 121)
3. Configure the PC display (page 123)
4. Install the IconMaster configuration utility from CD to PC (page 121)
5. Check the Ethernet connections (page 122)
6. Start the configuration utility application (page 123)
7. Adjust network settings (page 124)
8. Adjust the operating standard (page 124)
9. Adjust the system timing (page 125)

Default Configuration Files

For your convenience, several default configuration files are included on the IconMaster SoftTools CD included with your IconMaster control panel. You can use and modify these files.

These files are set up for an SD-525i/59 bilevel sync:

- Default_SD_NSM_Embedded.xml
- Default_SD_NSM_Discrete2ch.xml
- Default_SD_Panacea_Embedded.xml

These files are set up for an HD-1080i/59 with trilevel sync

- Default_HD_NSM_Embedded.xml
- Default_HD_NSM_Discrete2ch.xml
- Default_HD_Panacea_Embedded.xml

These files are "getting started" databases for you to use if you do not have a router database already configured for your system:

- Pana16x4 SDIAES1.da4 (Panacea 16×4, SDI video with 1 AES audio)
- Pana16x4 SDIAES2.da4 (Panacea 16×4, SDI video with 2 AES audio)
- Pana16x4 SDIEMB.da4 (Panacea 16×4, SDI video with embedded audio)
- Pana16x8 SDI-CQ.da4 (Panacea 16×8, Clean/Quiet, SDI video with embedded audio)
- Pana16x16 SDIEMB.da4 (Panacea 16×16, SDI video with embedded audio)
- Plat64x64 SDIAES.da4 (Platinum 64×64, SDI video with 1 AES audio)
- Plat64x64 SDIEMB.da4 (Platinum 64×64, SDI video with embedded audio)

System Requirements

The following minimum requirements are necessary to operate IconMaster configuration software.

Table 9-1 IconMaster Configuration Software System Requirements

Item	Specification
CPU	266 MHz Pentium II
RAM	At least 256 MB
Hard disk space	At least 30 MB free
Additional disk drives	CD-ROM or CD-RW
Operating systems*	Windows® 2000, Windows XP, and Windows Vista, with Microsoft® Internet Explorer 5.0 or later
Port(s)	Ethernet
Display resolution	1024×768, high color (16 bit) or higher
Pointing device	Mouse, trackball, touch screen, or other pointing device

*Windows 2000, Windows XP, Windows Vista, and Microsoft Internet Explorer are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Tools You Will Need

- Icon Series SoftTools CD (P/N 178-000176-00)
- PC matching system requirements

Installing the IconMaster Configuration Utility

1. If an existing version of the IconMaster configuration utility is installed on the PC, uninstall it, and then restart the PC.
2. Close all other applications running on the PC and insert the Installation CD into the PC CD-ROM drive.
3. Double click **Setup.exe** if setup does not start automatically.
4. When the **Welcome** box appears, click **Next**.
5. When the **Warning**! box appears, click **Next**.
6. Accept the software license.

   If you do not accept the license, installation will not continue.

7. If the Microsoft .NET framework box appears, follow the instructions, and then click **Next**.
8. When the **Select Installation Type** box appears, follow the onscreen instructions to install all four software applications (Content Editor, LogoCreator, IconLogo SoftPanel, and IconMaster Configuration Utility).

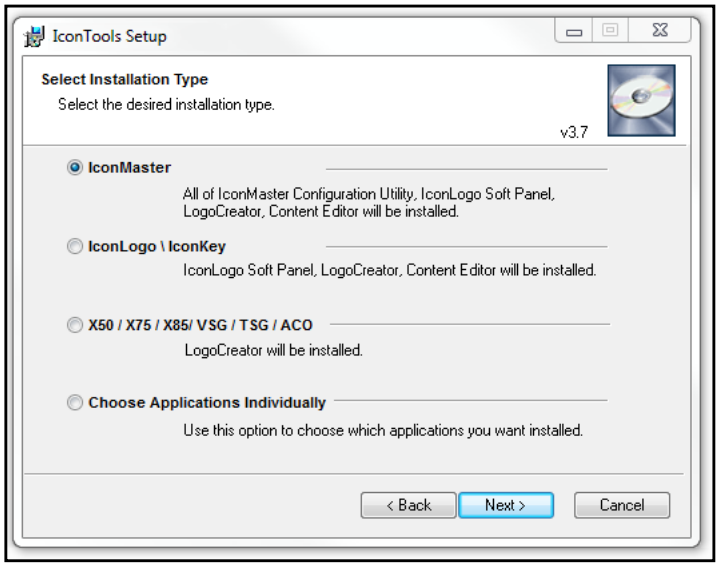

IconTools Setup
Select Installation Type
Select the desired installation type.
v3.7
IconMaster
All of IconMaster Configuration Utility, IconLogo Soft Panel, LogoCreator, Content Editor will be installed.
IconLogo \ IconKey
IconLogo Soft Panel, LogoCreator, Content Editor will be installed.
X50 / X75 / X85/ VSG / TSG / ACO
LogoCreator will be installed.
Choose Applications Individually
Use this option to choose which applications you want installed.
< Back
Next >
Cancel

Figure 9-1 Selecting or Deselecting a Feature

9 When the **Setup Complete** message appears, click **Finish**.

Removing IconMaster Configuration Software

To remove IconMaster Configuration software:

1 Go to the Windows Control Panel (**Start** → **Settings** → **Control Panel**), and then select **Add/Remove Programs**.
2 Select IconTools from the list.
3 Select **Remove** and follow the instructions provided on-screen.

CAUTION

Removing IconTools will also remove LogoCreator, Content Editor, and IconLogo SoftPanel.

Ethernet Connections

IconMaster uses Ethernet-based communication. Default IP addresses will function correctly in a "one frame and one control panel" configuration if they are both connected to the same switch that is *not* connected to a network server/router.

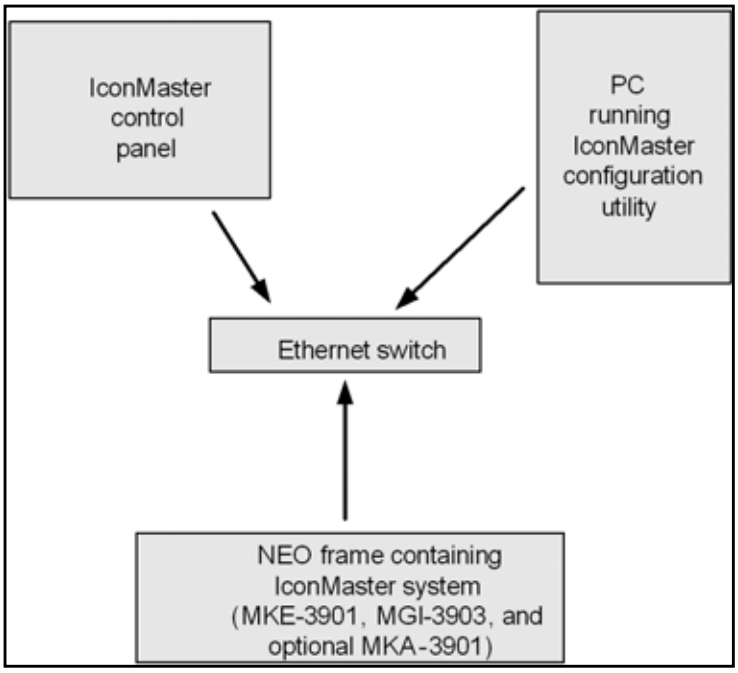

IconMaster control panel
PC running IconMaster configuration utility
Ethernet switch
NEO frame containing IconMaster system (MKE-3901, MGI-3903, and optional MKA-3901)

Figure 9-2 Simple Non-Network IconMaster Configuration

Starting ICU

To start the ICU application, select the **IconMaster Configuration Utility** icon by following this path:

Start → Programs → Imagine Communications → IconTools → IconMaster

The IconMaster configuration software main menu will display. The main window of the IconMaster configuration software provides a list of the main menu item groups. The groups that appear depend on whether you select frame configuration or panel configuration.

Configuring a PC Monitor for Best Display

For IconMaster software to show clearly and appropriately on a PC monitor:

1. Set the **Display Properties** for the monitor to 1024×768 pixel resolution (or larger) with regular or small fonts.
2. Go to the **Start** menu, and then select **Settings → Control Panel → Display → Display Properties → Settings**.
3. Set the color palette to display either **High** (16-bit) or **True** (24-bit) color.

Frame Configuration Menu Groups

When you choose to create a new IconMaster Frame Configuration (**File** > **New** > **IconMaster Frame Configuration**), four menu groups will appear. They are described in the following sections:

- ***Input/Output Group Settings*** on page 127

- ***Functional Group Settings*** on page 137
- ***Control Group Settings*** on page 149
- ***System Config Group Settings*** on page 156

Panel Menu Group

When you choose to make a new Control Panel Configuration (File > New > Control Panel Configuration), one menu group will appear. For information on this menu group, see ***Panels Group Settings*** on page 172.

Initializing IconMaster

Once you have started the IconMaster configuration utility, you will need to make adjustments to the following settings:

- Network settings
- Operating standard
- System timing

Network Settings

The default IP address will function correctly in a "one frame and one panel" configuration if both frame and panel are connected to the same switch that is *not* connected to a network server or router. However, if you are connected to a network server or router, you will need to coordinate the IP address for the MKE-3901 module, the MGI-390x module, and/or the IconMaster control panel.

Notice that there are two different network settings selections within the main menu groups. One selection controls network settings for the frame (found in the System Configuration menu group), and the other selection controls the network settings for the control panel (found in the Panel Configuration menu group).

If you have changed the IP address on the card edge of the MKE-3901 module, you must make the same change in the **Network** dialog box (see page 164 for more information on changing this setting).

To change the network settings of the IconMaster control panel, access the **Panel Network Configuration** dialog box (see page 172 for more information on changing this setting).

Operating Standard

The default operating standard for IconMaster is SD525 (270Mbit/sec). To change the operating standard, access the **Genlock and Standard** (see page 156 for more information on changing this setting).

Note: *When changing between HD operating standards (for example, from 1080I to 720P), you must repower the IconMaster.*

System Timing

Changing the system timing causes the IconMaster system to adjust the horizontal and vertical phase of the reference input so that the most number of inputs have their vertical timing value at zero. To make changes to the IconMaster timing, access the **Genlock and Standard** dialog box (see page 156) to make changes to the IconMaster timing.

CAUTION

Do not do a system timing activity until the IconMaster has been downloaded with a valid configuration file with appropriately assigned primary inputs.

Unwanted on air operation may result.

Managing ICU Databases

Note: *Instructions on enabling a router database for use with an IconMaster system begin on page 187.*

ICU uses XML databases to store configuration information about the different IconMaster setups you develop.

CAUTION

If you do not want your changes to appear in the active XML database, you should create a new XML database file before you make any changes.

You can create an ICU database from scratch or create one by opening an existing database, renaming it, and then manipulating existing information.

Creating an ICU Configuration File

1. Start IconMaster, as explained on page 123.
2. At the IconMaster Configuration Utility main menu window, select **File** → **New**. The **New Configuration** dialog box will appear.

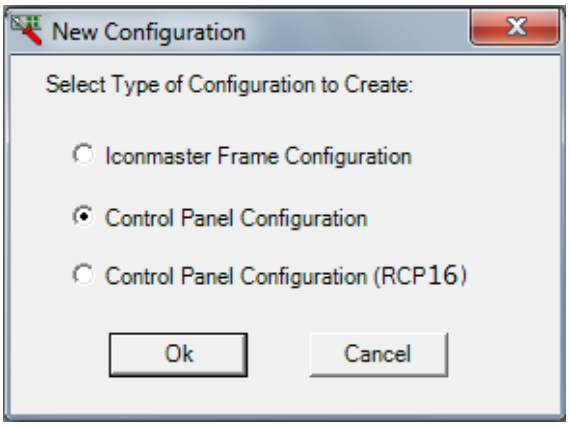


Figure 9-3 New Configuration Dialog Box

3 Select the appropriate radio button to set up the type of configuration file you want to create.

Table 9-2 New Configuration Types

Configuration	Description
IconMaster Frame Configuration	Specific configuration of inputs and outputs; transition, audio and effect buttons; machine control (including GPI/GPO); genlock; router management; automation; license management; serial port; and multiviewers
Control Panel Configuration	Specific configuration and panel network configuration functions for ICONM-RCP (12-button hardware panel)
Control Panel Configuration (RCP-16)	Specific configuration and panel network configuration functions for (16-button hardware panel)

4 Depending on which selection you made in step 3, the applicable menu options will appear.

5 Click **File** → **Save As**, and then enter a name for the new database.

6 Click **Save**. This will become the currently active database, and its name will be displayed in the Title bar at the top of the ICU main menu window. Database files are saved in the **Documents and Settings** → **All Users** → **Application Data** → **Imagine Communications** → **IconMaster** directory on your local drive.

Opening an Existing ICU Configuration File

Database files are saved in the **Documents and Settings** → **All Users** → **Application Data** → **Imagine Communications** → **IconMaster** directory on your local drive.

CAUTION

ICU for IconMaster 3.1 has been tested for backwards compatibility with Iconmaster 1.5.3 and IConmaster 2.X configuration databases. However, re-verify all configuration settings before applying them to the IconMaster.

It is strongly recommended that you back up your old configuration file before using a new 3.1 configuration file.

1 Start IconMaster, as explained on page 123.

2 At the IconMaster Configuration Utility main menu window, select **File** → **Open**. The **Open A Configuration** dialog box will appear.

3 Select a configuration file (XML file) from the displayed list. If the XML file resides in a different location, use standard Windows navigation techniques to move to the location of the file you want to display.

4 Highlight the name of the file you want, and then click **Open**.

Saving Databases

Saving to a New Database

1 From the menu bar, click **File**, and then select **Save As**. The **Save As** dialog box will appear.

2 In the File Name drop-down list box, do either of the following:

- Enter a name for the database that will hold the changes you just made.

- Highlight the name of an existing database (use standard Windows navigation procedures to select a location different from the default location). **Be careful doing this.** Saving to an existing database will cause the software to overwrite the original database settings. It will not append your new changes to the existing database.

3 Click **Save**.

4 (Optional) Upload the effects to the IconMaster frame. See ***Uploading Databases*** on page 127 for more information.

Uploading Databases

Changes made in an ICU dialog box will not take effect until the saved database has been uploaded to the IconMaster frame. To upload changes:

1 Save your current configuration file.

2 From the menu bar, click **Send CFG to frame**. An information message will prompt you to confirm the upload of the configuration to the IconMaster frame.

3 Click **Yes**. The database will be uploaded to the IconMaster frame.

Most new settings will take effect on the IconMaster immediately. Changes that require a reboot include:

- Standard change (also requires new firmware)
- Upgrade license from IconMaster LITE to full IconMaster
- A change of serial port settings
- Changing an SD system from 8-channel audio operation to 16-channel audio operation

Input/Output Group Settings

The **Input/Output** group on the left side of the IconMaster configuration software screen includes the following dialog boxes: Primary Inputs, Audio Configuration, Audio Over Matrix, and Aux Bus.

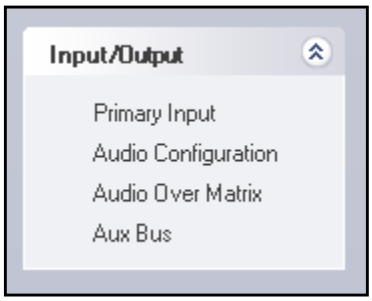


Figure 9-4 Input/Output Menu Group

This menu group controls system input and output configuration functions, as shown in **Figure 9-4**.

Primary Input Settings

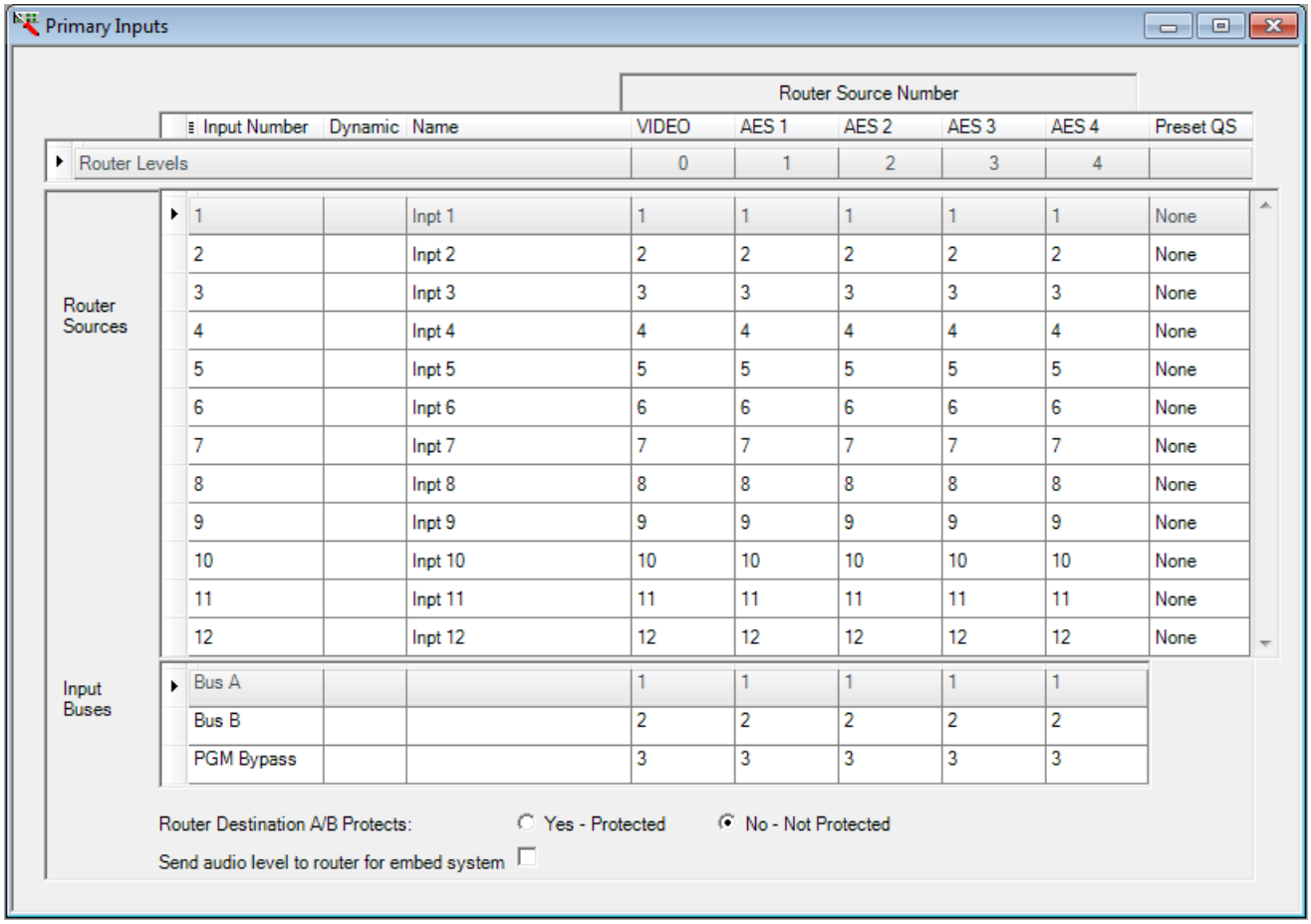

Primary Inputs
Router Source Number
Input Number
Dynamic
Name
VIDEO
AES 1
AES 2
AES 3
AES 4
Preset QS
Router Levels
0
1
2
3
4
Router Sources
1 Inpt 1 1 1 1 1 1 None
2 Inpt 2 2 2 2 2 2 None
3 Inpt 3 3 3 3 3 3 None
4 Inpt 4 4 4 4 4 4 None
5 Inpt 5 5 5 5 5 5 None
6 Inpt 6 6 6 6 6 6 None
7 Inpt 7 7 7 7 7 7 None
8 Inpt 8 8 8 8 8 8 None
9 Inpt 9 9 9 9 9 9 None
10 Inpt 10 10 10 10 10 10 None
11 Inpt 11 11 11 11 11 11 None
12 Inpt 12 12 12 12 12 12 None
Input Buses
Bus A 1 1 1 1 1
Bus B 2 2 2 2 2
PGM Bypass 3 3 3 3 3
Router Destination A/B Protects:
Yes - Protected
No - Not Protected
Send audio level to router for embed system

Figure 9-5 Primary Input Dialog Box

Using the Primary Input settings, you can perform the following actions:

- Change the names of your sources
- Manage router sources at the physical control panel (instead of always having to download a configuration from the ICU)
- Change the router source number
- Choose a preset quick select
- Enable Program Bypass
- Protect or unprotect the router A/B feeds to IconMaster[1]

To change the Name of the input source, double-click the name in the cell, and then enter the new name. The length of the name is limited to 10 characters (including spaces), over 2 lines, with a maximum of 5 characters per line.

[1] The Protected option allows a router destination to be locked to prevent inadvertent changes to the A/B sources feeding the IconMaster. With the Protected feature enabled, only the IconMaster will be able to change the router destination at will, but other users will be prevented from changing that destination until the Protect is removed. The X-Y bus panel ID setting on the Router Configuration page must be set to a unique value.

To allow control panel router source management, click the Dynamic check box to the right of the router source number. If you have selected "12 inputs" as the primary input mode, you will be able to allow control of 12 sources. if you have selected "22 inputs" as the primary input mode, you can allow control of 22 sources. To set the primary input mode, you must use the System Configuration dialog box. See page 160 for instructions.

The Preset QS (Quick Select) assigns the sources you pre-configured in the Quick Select Dialog Box (see page 143) to a primary input. **To choose a preset quick select**, click the Preset QS drop-down list box that corresponds to the appropriate router source number, and then scroll down to the appropriate quick select number. Use of preset Quick Selects is not recommended if the **Auto Take** function of Quick Selects is enabled.

Note: *The **PGM Bypass** option is not available on a system that does not include an IconMaster breakout module.*

To enable the **PGM Bypass** option, click the check box to the right of the PGM Bypass Input Bus selection.

When the **PGM Bypass** option is selected, IconMaster can control an auxiliary output from the primary router (the router output for bypass will be a separate output with the same content as the IconMaster PGM output for this to operate correctly). This auxiliary output will follow the same source that is currently on-air. The router output can be linked to the IconMaster's emergency PGM input and, in the event of an IconMaster failure or loss of power, a bypass relay will instantly connect the auxiliary signal to the IconMaster's PGM output BNC.

To protect router A/B feeds to IconMaster, click the **Yes - Protected** radio button. **To unprotect the feeds**, click the **No - Not Protected** radio button.

To prevent operators from protecting a Destination and then not being able to find the panel that originated the protect, Imagine Communications's physical router control panels incorporate an override feature. **To override a Destination Protect that was set by another panel or IconMaster**, press and hold the control panel Protect key until it stops blinking (about 5 seconds). At the end of the 5-second period the Destination Protect key will no longer be lit, which means that the destination is no longer protected. For more information about this feature, see the pertinent router control panel installation, configuration, and operation manual.

Place a check beside **Send Audio level to router for embed system** if you want to route the embedded audio with the associated video. Otherwise, leave it blank. This option will route up to four audio levels as assigned on this page. If all audio levels are required to be routed as defined in the Navigator routing database editor then go to the **Router Configuration** page and select **Switch all Audio in Database for Embedders**.

Audio Configuration Settings

Using the **Audio Configuration** dialog box in ICU, you can designate the audio output for each audio input.

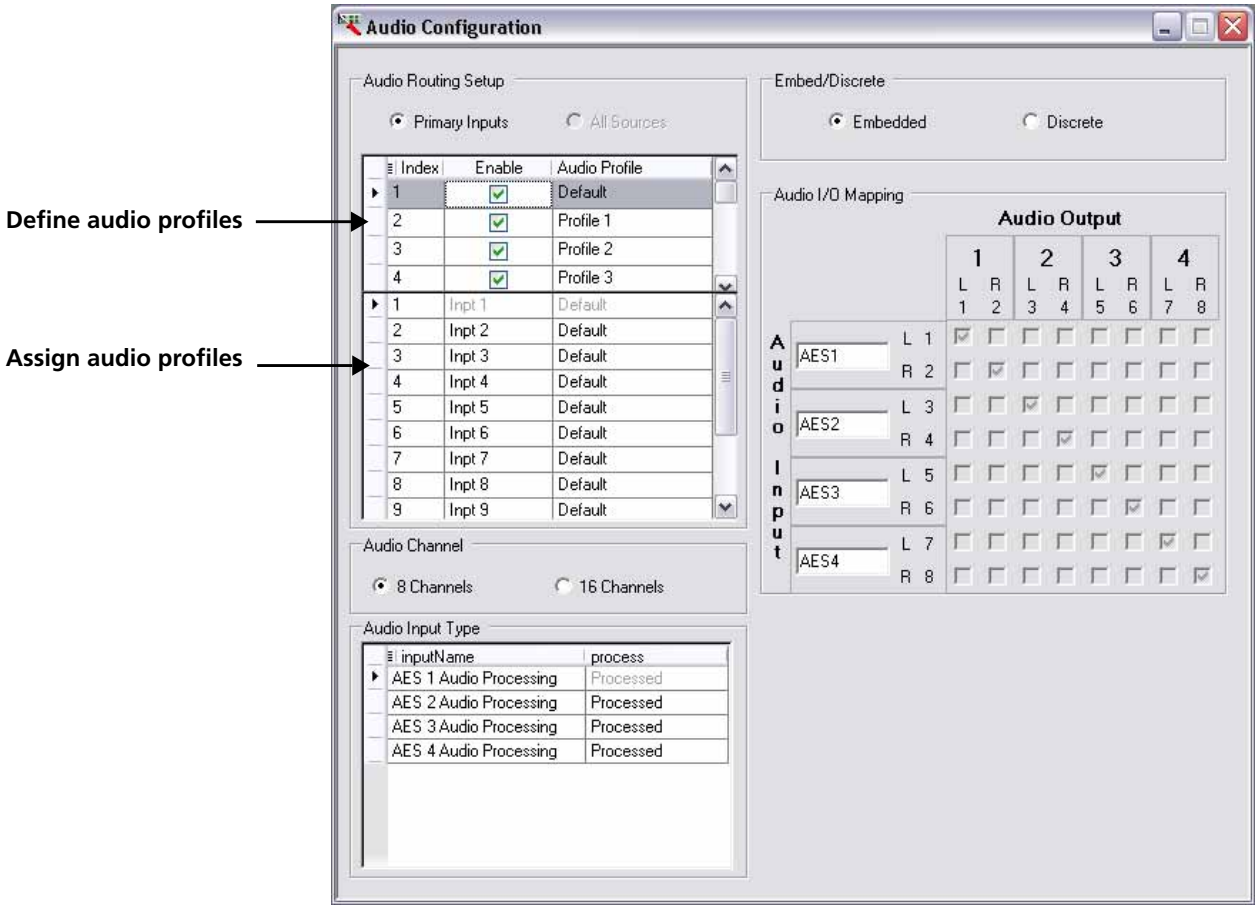


Figure 9-6 Audio Configuration Dialog Box

Note: *The Audio Channel* ***8 Channels*** *and* ***16 Channels*** *selections are not available if the IconMaster has been configured for HD operation.*

Audio Profiles

To simplify configuration of inputs with similar audio settings and correct wiring or mapping problems, IconMaster provides one default and 15 user-definable audio profiles. An audio profile is a set of audio input to output mappings, which can be applied to any input source.

In the Audio Routing Setup, all inputs are assigned the Default profile.

Profiles that have a check in the **Enable** column are available for assignment.

To edit a profile:

1. Select one of the user-defined profiles at the top of this screen.
2. (Optional) Click in the **Audio Profile** field and type a new name to rename the profile.
3. Select the primary audio input type. Options are:

- **Embedded** audio is recovered from the specific SDI input.

  In an SD IconMaster system, as in **Figure 9-6**, under **Audio Channel**, you can determine whether to use 8 or 16 audio channels. Then, for each primary audio input, each of the 8 or 16 audio input channels can be assigned to any or all of the 8 or 16 audio output channels.

  NOTE: *If the audio configuration for an SD Iconmaster is changed from 8 channel to 16 channels, or from 16 channels to 8 channels, you must reboot IconMaster to ensure that all audio channels are properly configured. After uploading the configuration file to the IconMaster, you can reboot the MKE using ICU's* ***Reboot MKE*** *button.*

  In an HD IconMaster system with embedded audio, as in **Figure 9-7**, for each primary audio input, each of the 16 audio input channels can be assigned to any or all of the 16 audio outputs.

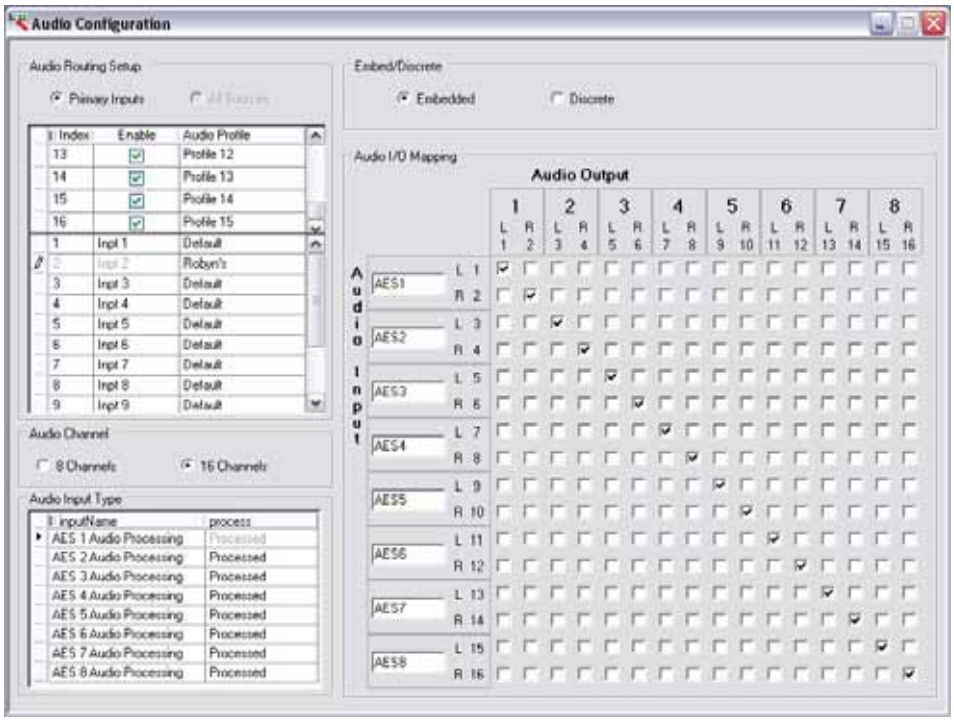


Figure 9-7 Audio Dialog Box — HD with Embedded Audio

- **Discrete** audio is available with the optional MKA-3901 audio module only. Discrete audio inputs are sample rate converted, and thus can only accept PCM audio.

  NOTE: *Due to sample rate converters, Dolby-E inputs via discrete audio are not supported by IconMaster.*

  In a HD IconMaster system with discrete audio, as in **Figure 9-8**, for each primary audio input, each of the 8 audio input channels can be assigned to any or all of the 16 audio outputs.

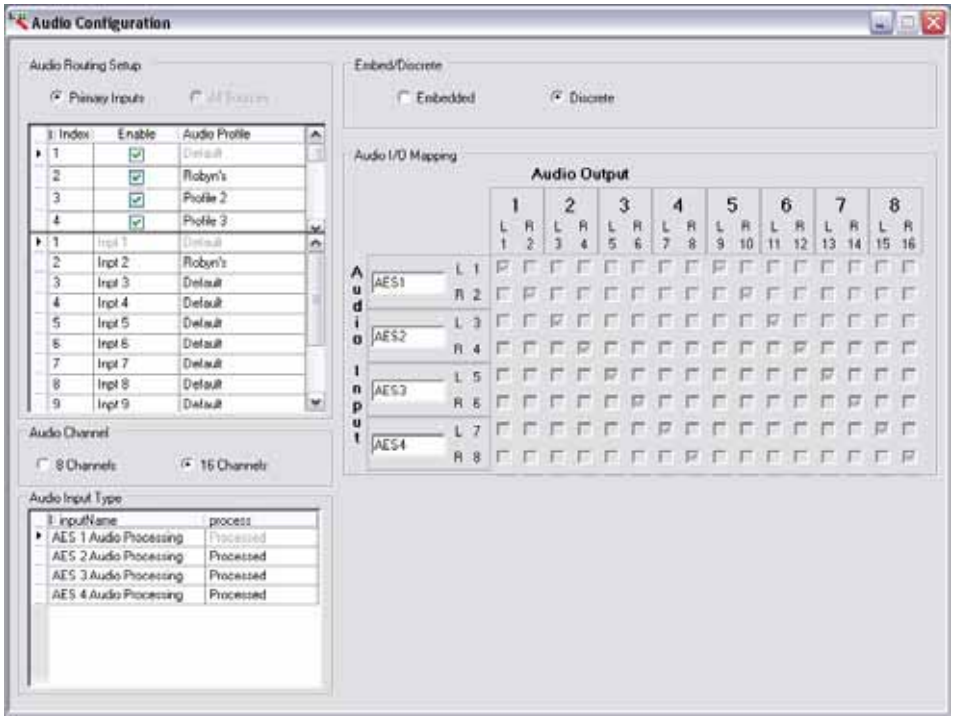


Figure 9-8 Audio Dialog Box — HD with Discrete Audio

If discrete audio inputs are used, all **Audio Input Type** settings should be manually assigned to either Processed or Unprocessed. The Automatic setting is not applicable to discrete audio inputs.

4 Under **Audio Channel**, select either 8 or 16 channels.

As the audio configuration state changes from 8 to 16 (or vice versa), the Audio Over Matrix and Audio Cluster dialog boxes will also change accordingly. See page 134 and page 148 for more information.

5 Edit the **Audio I/O Mapping** grid.

This audio mapping will only be applied to the specified input.

IconMaster can recover up to 16 audio channels from each of the 12[1] or 22[2] primary embedded inputs. Alternatively, if the MKA-3901 module is present, IconMaster allows for up to 4 AES inputs from each of the 12 or 22 primary inputs. Each of the AES inputs has 2 audio channels for a total of 8 audio channels for each input.

6 To rename an audio input, in the **Audio I/O Mapping** grid, double-click on the name of the input, and then enter a new name.

A maximum of 6 characters is allowed.

7 Under **Audio Input Type**, for each AES audio input select one of the following:

- **Processed** (default)—Full audio control is enabled. IconMaster ignores incoming C and V bits (see **Table 9-3**), and full audio control is enabled. Operators have full control of audio gain, channel swapping, sum, mono, etc. The output AES channel status (C and V) bits are forced to indicate valid PCM audio.

[1] This is true for 12 input mode.
[2] This is true for 22 input mode.

- **Unprocessed** —Audio is passed without modification (all audio settings are ignored). This is the required setting to pass non-PCM audio, such as Dolby® E encoder/ decoder[1] and Dolby® AC-3, through IconMaster.
  Full audio control is disabled. No gain or channel manipulation is allowed. The output AES channel status (C and V) bits follow the incoming channel status bits.
- **Automatic —**IconMaster monitors the incoming C & V channel status bits. If the incoming channel status bits indicate Valid PCM (C=0, V=0), then full audio control is enabled. If either channel status bit is set to 1, audio control is disabled. The output AES channel status bits (C and V bits) follow the incoming channel status bits.

Table 9-3 AES Channel Status Bits

Bit	**Function**	**0**	**1**
Each AES channel pair includes two important channel status bits:			
C	Indicates whether the AES channel contains PCM sampled audio data	PCM audio, which can generally be gain adjusted, summed, swapped, mixed to mono, etc.	NON-PCM data, which should not be altered in any way.
V	indicates whether the AES channel contains VALID data.	Valid data	Invalid data
The following outlines some common data types, and their C & V bit settings:			
C bit	**V bit**	**Meaning**	**Typical Use**
0	0	Valid PCM	Normal audio
1	0	Valid Non-PCM	Dolby-E, data carried as audio
0	1	Invalid PCM	Audio with error (CRC, equipment, etc), which should NOT be converted to analog via D/A process.
1	1	Invalid Non-PCM	Rarely seen

When changing the assignment from **Processed** to **Unprocessed**, all audio settings will return to their default values. When changing the assignment from **Unprocessed** to **Processed**, all audio settings will be restored to the values currently set on the control panel.

Note: *Audio profiles are assigned using ICU and can be dynamically assigned using ISCP, ISCP-Lite or the RCP.*

[1] Dolby and the double-D symbol are registered trademarks of Dolby Laboratories.

Audio Over Matrix Settings

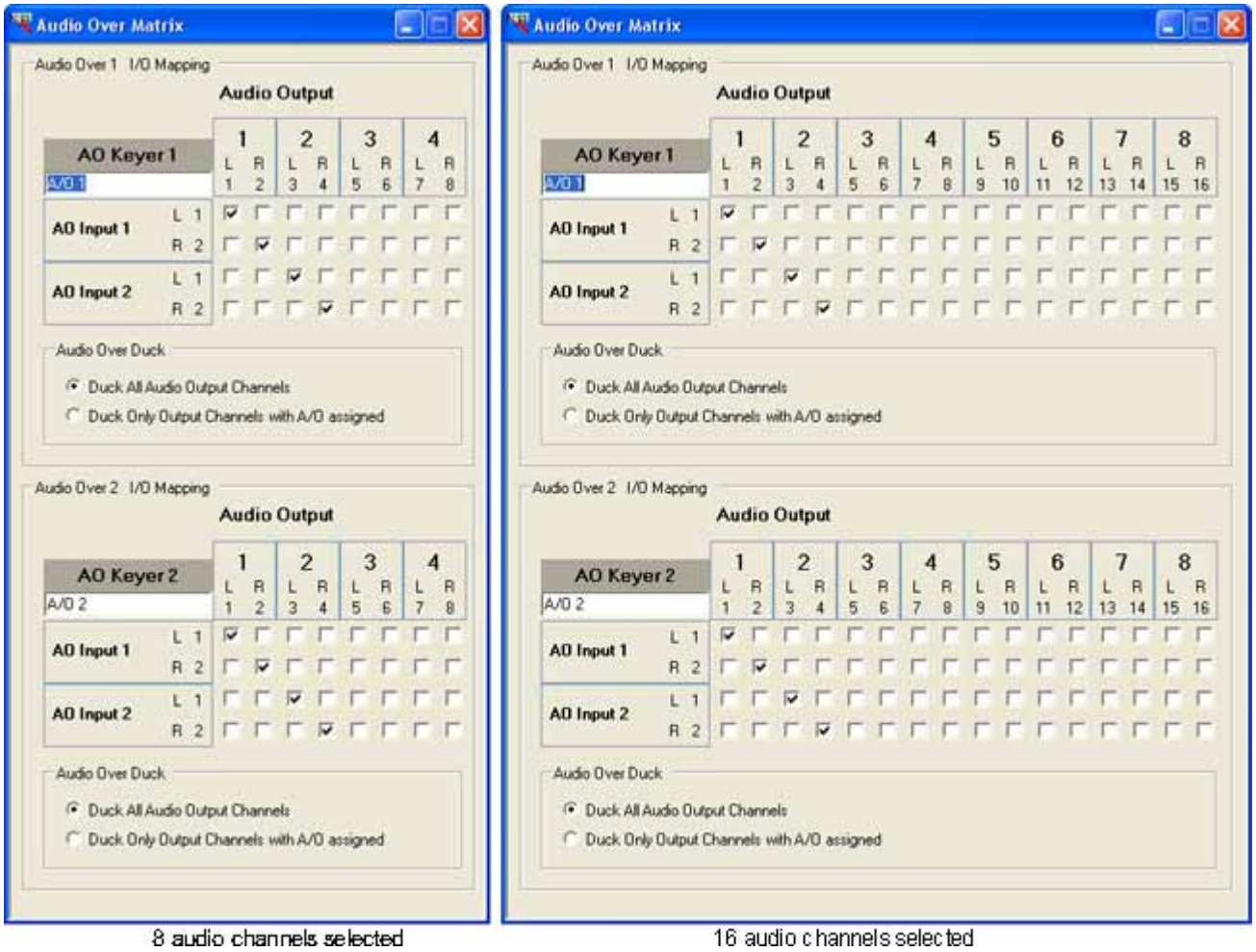


Figure 9-9 Audio Over Matrix Dialog Box

The Audio Over Matrix dialog box includes the settings for the Audio Over inputs 1 and 2. Using this dialog box, you can assign the A/O inputs to the audio outputs and configure audio ducking.

IconMaster has 2 AES inputs dedicated to the audio overs. Each AES input has 2 audio channels. The number of outputs corresponds to the number of audio channels selected at the Audio Configuration dialog box (see page 129). In an SD system, each of the 4 channels can be assigned to any or all of the 8 or 16 Audio Outputs (depending on how SD audio is configured. See page 134). In an HD system, each of the 4 channels can be assigned to any or all of the 16 Audio Outputs.To change the assignment, select the check box that corresponds to the input/output combination required.

An audio output cannot be assigned to more than 1 audio input. An audio input can be assigned to more than 1 audio output.

The audio assignments can be different for A/O1 and A/O2.

As shown in **Figure 9-9**, audio over channels 1, 2, 3, and 4 are defaulted to Audio Outputs 1, 2, 3, and 4, respectively.

Audio over ducking can be configured differently for A/O1 and A/O2.

- If Duck All Audio Output Channels is selected, any audio output that is not assigned an audio input will "fade down" the background audio on that channel during an audio over.
- If Duck Only Output Channels with A/O Assigned is selected, only the audio outputs that are assigned an audio input will "fade down" the background audio and perform the audio over.

Note: *Logo audio matrix settings are configured in the IconLogo soft gui tool. See the "Audio Menu Page" section of your IconLogo documentation for more information.*

Aux Bus (Auxiliary Bus Configuration) Settings

The **Auxiliary Bus Configuration** dialog box (**Figure 9-10**) configures the IconMaster auxiliary bus routing. This makes it possible to control additional router destinations with the Aux bus. The IconMaster control panel provides for the selection of 1 of 12 Aux buses.

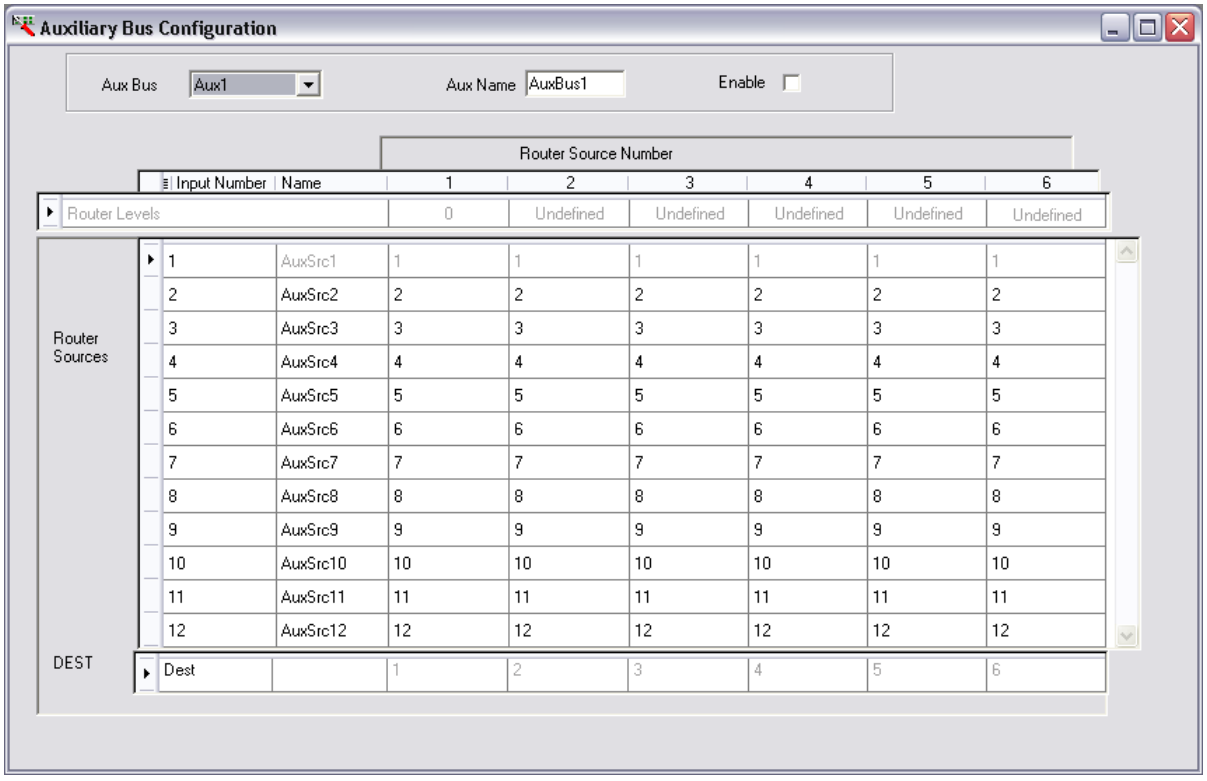


Figure 9-10 Auxiliary Bus Configuration Dialog Box

Any destinations can be used for the **Aux** buses.

Configuring Aux Buses in Static Mode

When not in Router Database mode (see page 158), follow these steps to configure the Aux Buses:

1 Select one of the Aux buses listed (1 through 12) from the **Aux Bus** drop-down list box. The name associated with that Aux bus item will appear in the Aux Name box.

To change the name(s) of the Aux bus configurations, double-click in the **Aux Name** box, and then enter a new name for the aux bus (a maximum of 6 characters is allowed).

After the changes have been uploaded to the IconMaster frame, this name will appear in the LCD button that is on the extreme right side of the Aux bus. (See your *Iconmaster Functional Operation and Configuration Manual* for the LCD button location.) If multiple Aux bus ports are assigned individual names (e.g., Aux 1 is renamed Aux A, Aux 2 is renamed AuxCtrl), you can toggle the Aux bus LCD button to scroll through the various buses. Any Aux buses labeled "Unused" will not appear on the LCD button display.

2 if it is not already selected, click the **Enable** checkbox.

Any aux buses that are not enabled will not appear in the LCD button display on the RCP, and will be grayed out in the ISCP.

The router source levels will be set automatically, to the defaults in **Figure 9-10**.

3 To change the name of a router source configuration, click on the appropriate name box, and then enter a new name for the associated source (a maximum of 8 characters is allowed).

4 To change the level assigned to each **Aux** bus, click on the appropriate level box, and then choose the required level from the drop-down box. There is a maximum of 16 levels (0 to 15). Selecting **Unused** will disable an Aux bus from use.

5 The number in the **Dest** column should be set to the router destination being used for each of the **Aux** buses. To change the assignment, double-click on the **Dest** field to be changed, and then enter the new assignment. Press **Enter** to complete the change.

Any router input can be assigned to any of the 12 Aux bus sources (labeled **Src 1** to **Src 12**). This is possible for each aux bus independently. To change the assignment, double-click the **Src** field to be changed, and then enter the new assignment. Press **Enter** to complete the change.

Note: *It is strongly encouraged that any Aux busses that are not in use be disabled using the* ***Enable*** *checkbox at the top of each Aux bus page, for Aux busses 1–12.*

Configuring Aux Buses in Router Database Mode

To configure the Aux buses using an external router in Router Database mode (see page 158 for information), the Aux Bus dialog box will appear slightly different, as in **Figure 9-11**.

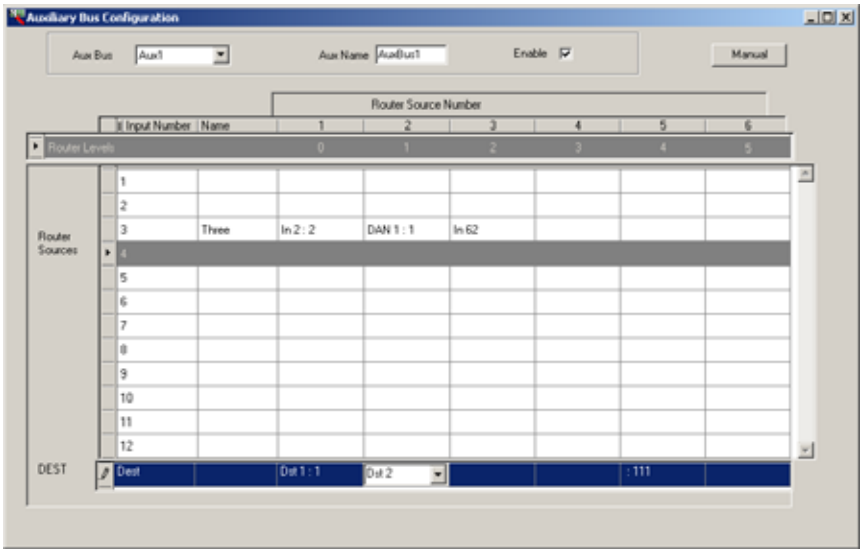


Figure 9-11 Aux Bus in Router Database Mode

To configure the Aux Bus in Router Database mode, follow the first three steps above, and then continue as follows:

1. For each input number, in the Router Levels row at the top of the grid, pick a level.
2. Pick a destination for that router source from the DEST row at the bottom of the grid.
3. In the **Source Input** grid, click a field to open a menu, and then click on an item in the router database.

   The field updates with the destination information for that cross-point.

Repeat these steps as necessary to complete the grid. All unused fields in the grid should be set to **Unused**.

When you select a source that is not in the database, all the sources will be listed. However, these sources will not have cross-points. To enter the cross-point, click **Manual**, and then type in the cross-point.

The label does not represent the cross-point. It is just there as a reminder.

Functional Group Settings

The **Functional** group on the left side of the IconMaster configuration software screen includes the following dialog boxes: Transition, Effects, Quick Select, Audio Cluster, and Keyer.

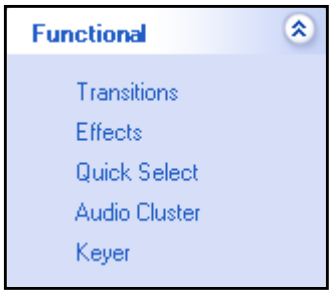


Figure 9-12 Functional Menu Group

This menu group controls the functional configuration of the IconMaster, as shown in **Figure 9-12**.

Transition Settings

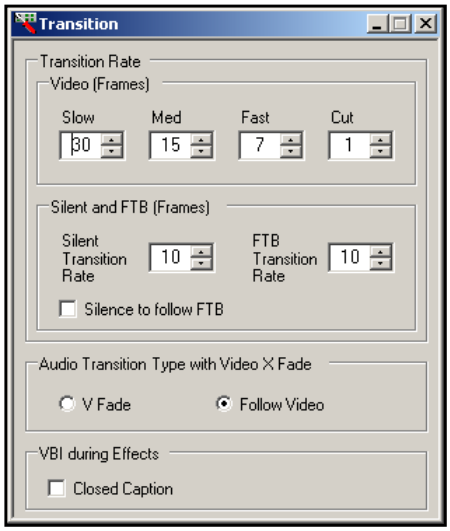


Figure 9-13 Transitions Dialog Box

Setting Transition Rates

Unless otherwise stated, the range is from 1to 300 frames.

Table 9-4 Transition Settings

Transition type	Description/Option	Default
Video Frame Rate	Slow	30 frames
	Medium	16 frames
	Fast	8 frames
	Cut (range from 0 to 300 frames)	1 frame
Silent Transition rate	Fades out the audio at a faster rate than the video transition, to eliminate a distracting segue during the audio transition	10 frames
Fade to Black (FTB) Transition Rate	"Dissolves" a video picture to black	10 frames

Silence to follow FTB is normally used for transitions. With this option selected, the "fade to silence" during the video fade to black occurs at the rate you have set in the **FTB Transition Rate**. To enable this transition, select the **Silence to Follow FTB** check box on the Transitions window. The default value is disabled (unchecked).

Setting Audio Transition Types

Note: *The manual use of a cut button always overrides the selection on the* ***Transition*** *function bus.*

The **Audio Transition Type** can be either **V-Fade** or **Follow Video**. Choose the appropriate radio button for your selection, as follows:

- Choose the default **V-Fade** selection to fade the first source to silence, and then fade up the new source. During this operation, the "V" button on the **Transition Functions** bus is half-illuminated.
- Choose the **Follow Video** option to have the audio transition type always follow the video transition type automatically.

Preventing and Enabling Closed Captioning

Select the **VBI** (vertical blanking interval) **Closed Caption** check box to prevent closed captioning on line 21 in 525 from being squeezed during an effect.

If the **Closed Caption** check box is not selected, the default value is line 20.

Effects Settings

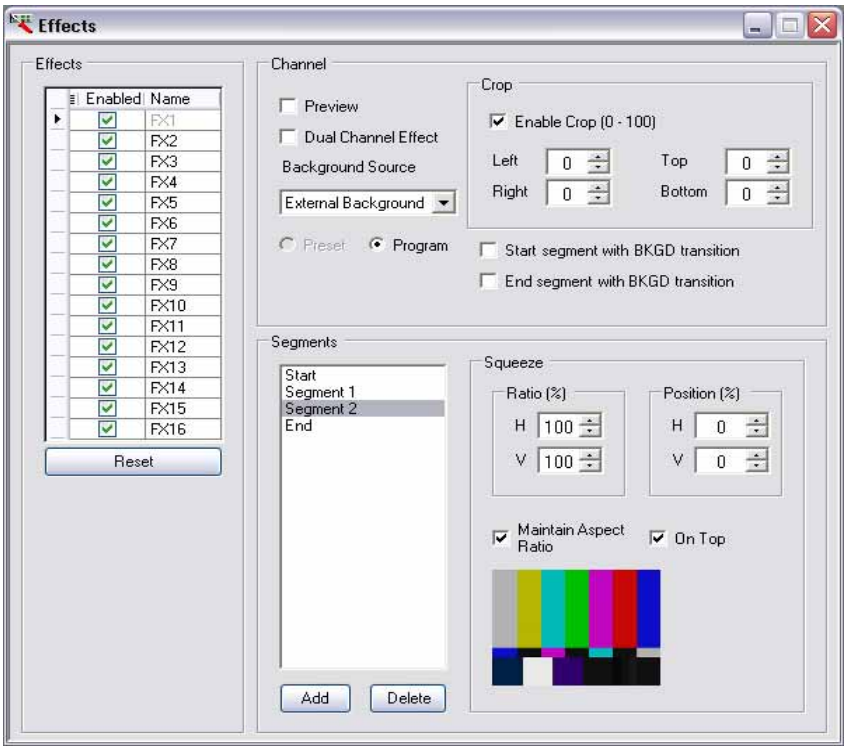


Figure 9-14 Effects Dialog Box

Using the **Effects** dialog box in ICU, you can perform the following actions:

- Create an Effect
- Edit an Effect name
- Disable and/or re-enable an Effect
- Reset an Effect
- Set a second channel for preview operations
- Select a channel to edit
- Change a background source
- Change a crop size
- Change the position of a channel
- Change the squeeze ratio of a channel

Preloaded Effects in Default Configuration Files

For your convenience, several default configuration files are included on the IconMaster SoftTools CD included with your IconMaster. These configuration files include the following preconfigured effects:

- Effect 1 = SQ-BRT, 1chl 35% window in upper right, with external background
- Effect 2 = SQ-BLT, 1chl 35% window in upper left, with external background
- Effect 3 = SQ-R, 1chl 75% H, 100%V on right side, with external background
- Effect 4 = SQ-L, 1chl 75% H, 100%V on left side, with preset background
- Effect 5 = SQ-URT, 1ch 75% L-Bar window in upper right with preset background
- Effect 6 = SQ-ULT, 1ch 75% L-Bar window in upper left with preset background

See page 120 for a list of files that are included.

Before You Begin

Before you begin, ensure that you observe the following:

- Each effect should be viewed as a sequence of events, like a filmstrip.
- Each effect must be defined horizontally and vertically (the default position of 0,0 is defined as the upper left corner of the screen).
- All effects start with the Program full size. This is defined as *Start A.*

Note: *For both single channel and 2 channel effects, the sequence will end with either Program as the only full size on-screen image.*

For a single channel effect, do not select the **Dual Channel Effect** check box.

- Segment 1 defines the position and size at the end of the first transition.
- There is an entry only for Program.
- The background may be **External Background** or **Preset**.
- The end of the effect is set by *Program.*

  For a single channel effect, the effect must end as a full-size Program or Preset.

For a 2-channel effect, select the **Dual Channel Effect** check box.

- **Segment 1** defines the position and size at the end of the first transition.
- There is an entry for both Program and Preset.
- The background may be **External Background** or **Preset**.
- The end of the effect is set by *End A* and *End B.*
- The effect must end as one of these options:
  - A full-size Program and a zero size Preset
  - A full-size Program and a full-size Preset fully on screen.
- If you **Preview Effect on PST** in your effect, you can choose to preview the effect before you send it to air. If you select **Dual Channel Effect**, you cannot preview the effect before you send it to air.

  Up to 16 different effects can be set up.

For an effect in SD, there may be potential discrepancies in horizontal and vertical blanking between analog and digital systems. It is recommended that a crop be added to the effect setup. IconMaster includes the following default values for the crop settings:

- Left 2

- Right 2
- Top 1
- Bottom 1

These default values prevent the appearance of a black border when the effect is underway.

Creating an Effect

An effect is made up of a sequence of events or *segments*. To create and store additional segments in your effect, click **Add.** Then, with the new segment number selected in the **Segments** field, you can modify what the effect looks like for that segment.

To create and store a multi-segment effect:

1. Double-click one of the cells in the **Effects** column, and then optionally, rename the effect (a maximum of 6 characters is allowed).
2. Select **Segment 1** in the **Segments** field for the effect being edited. When a segment is highlighted in the **Segments** field, the squeeze and crop fields are enabled.
3. Select **Enable Crop**, and then make your required numeric settings (0 to 100) for **Top**, **Bottom**, **Left** and **Right**.
4. Set the destination of your **Squeeze** effect in the first segment by changing the percentage numbers in the **Ratio** and **Position** columns.

   (Select **Maintain Aspect Ratio** if you need the horizontal and vertical values to be kept at a constant ratio.)

Note: *Positions can be negative, for off screen positions above or to the left of the viewable screen area.*

5. Click **Add** to create **Segment 2** of your effect, and then select new values for **Ratio** and **Position**.
6. Continue for segments 3 and 4 as applicable.

   Up to 4 segments are available for each effect.

The **Reset** button deletes all of the settings for the effect being edited. When you select the **Reset** button, a pop-up confirmation window appears, verifying that you want to reset the manual effect.

Editing an Effect Name

1. Under the **Name** column in the **Effects** box, double-click on the name of the effect you want to change.
2. Enter a new name for the effect (a maximum of 6 characters is allowed).

Enabling an Effect

Click the empty check box to the left of the name of the effect you want to enable. As a result, the Enabled check box will have a check mark in it to indicate the selected effect is enabled.

Disabling an Effect

Click the check box to the left of the name of the effect you want to disable. As a result, the Enabled check box will appear empty to indicate the selected effect is disabled.

Resetting an Effect

1. Highlight the effect you want to reset.
2. Click the Reset button at the bottom of the Enabled/name columns. An information message will "ask" if you want to reset the selected effect.
3. Click **Yes**. The effect will be reset to its default value.

Setting the Second Channel for Preview Operations

To use the second channel of the effects engine to preview effects on the Preset video output, select the ***Preview Effect on PST*** check box. The **Background Source** will be forced to **External Background** and cannot be changed. In addition, the Preview will apply to all 16 effects.

The second channel can only be used in 1 mode; in other words, **Dual Channel Effect** in the Channel section and **Preview Effect on PST** are mutually exclusive.

Selecting a Channel to Edit (Adding a Second Channel to an Effect to Squeeze the PGM and PST Video)

To add a second channel to an effect to squeeze the PGM and PST video, select the **Dual Channel Effect** check box, select the **Preset** radio button, and then follow the procedure as described above. You can edit the effect after you have created it, by first selecting the appropriate channels box.

Changing a Background Source

Note: *If* ***Preview Effect on PST*** *is selected, you will not be able to select a background source.*

For each effect, the background source can be changed through the pull-down ***Background Source*** box.

For a single channel effect, your choices are

- Preset
- External Background

For a 2-channel effect, when neither channel is full size, the **Background Source** will be forced to **External Background** and cannot be changed.

Changing a Crop Size

1. In the Crop box, check the **Enable Crop** check box. The **Left**, **Right**, **Top**, and **Bottom** spin boxes will be enabled.
2. Enter the new percentage for each crop value. The range of values ranges from 0 to 100%.

Starting and Ending With a Background Transition

Place a check in the box to start or end with a background transition.

Changing the Position of a Channel

1 Select the appropriate segment in the **Segments** field for the effect being edited. When a segment is highlighted in the **Segments** field, the **Position** spin box is enabled.

1 Under the **Squeeze** → **Position** box, click the **H** (horizontal) or **V** (vertical) position box.[1]

2 Enter the new percentage for the position value. The range of values ranges from -100% to +100%.

Changing the Squeeze Ratio of a Channel

1 Select the appropriate segment in the **Segments** field for the effect being edited. When a segment is highlighted in the **Segments** field, the **Ratio** spin box is enabled.

2 Unclick the **Maintain Aspect Ratio** check box.

3 Under the **Squeeze** → **Ratio** box, click the **H** (horizontal) and/or **V** (vertical) box, and then enter a new ratio value(s). The range of values ranges from 0% to +100%. You can see a thumbnail view of the ratio of the squeeze on the Effects dialog box.

4 Under the **Squeeze** → **Position** box, click the **H** (horizontal) and/or **V** (vertical) box, and then enter a new position value(s). The range of values ranges from -100% to +100%. You can see a thumbnail view of the position of the squeeze on the Effects dialog box.

Creating L-Bars

1 Select the appropriate segment in the **Segments** field for the effect being edited.

When a segment is highlighted in the **Segments** field, the **Ratio** spin box is enabled.

2 Under the **Squeeze** → **Ratio** box, click the **H** (horizontal) and/or **V** (vertical) box, and then enter a new ratio value(s).

The range of values ranges from 0% to +100%. Setting the H value to 0 will set the L-bars to appear at the top left corner of the display. You can see a thumbnail view of the ratio of the squeeze on the Effects dialog box.

Creating Wipes

1 Select the appropriate segment in the **Segments** field for the effect being edited.

When a segment is highlighted in the **Segments** field, the **Ratio** spin box is enabled.

2 Under the **Squeeze** → **Position** box, click the **H** (horizontal) box, and then enter a position value of 100.

This value will cause a wipe effect on screen.

Quick Select Settings

Quick Select recalls the stored appearance of either the PST or the PGM monitor.

A Quick Select is a snapshot of the state of the various portions of your system. The Quick Select dialog box has four tabs which allow you to select combinations of the following items:

[1] Position values always refer to the full, uncropped size.

- Both external keys
- Both audio overs
- **Logo Key 3** through **Logo Key 6** states and/or contents (not available with IconMaster Lite license)
- Aux bus functions
- Transition functions

To configure a Quick Select:

1 Choose whether you will recall the PST state or the PGM state.

Regardless of which state you will recall, the complete set of data is stored.

- **Recall Saved PST State**: Recalls whatever is on the Preset monitor at the time that the Quick Select is made
- **Recall Saved PGM State**: Recalls whatever is on the Program monitor at the time when the Quick Select is made

The PST/PGM state selection is a global selection that is made for all Quick Selects.

2 Go through the four tabs of the **Quick Selects** dialog box, making selections for Quick Selects 1-8. Each row in the table represents a single Quick Select.

The contents of these tabs are described in the following sections.

- ***Quick Selects for External Keys*** on page 144
- ***Quick Selects for Internal Logo Keys*** on page 145
- ***Quick Selects for Aux Buses*** on page 146
- ***Quick Selects for Transitions*** on page 147

By default, all options on these tabs are selected, except for the Auto Take option on the Transitions tab.

3 When you are satisfied with your Quick Selects choices, save and upload to your IconMaster frame.

Back at your Control Panel, after the revised ICU file has been uploaded, when you store and recall Quick Selects, the snapshots that are captured will reflect the settings made on these screens.

Quick Selects for External Keys

The External Keys tab of the Quick Select Configuration dialog box has options for recalling both the visual and audio portions of the two external keyers.

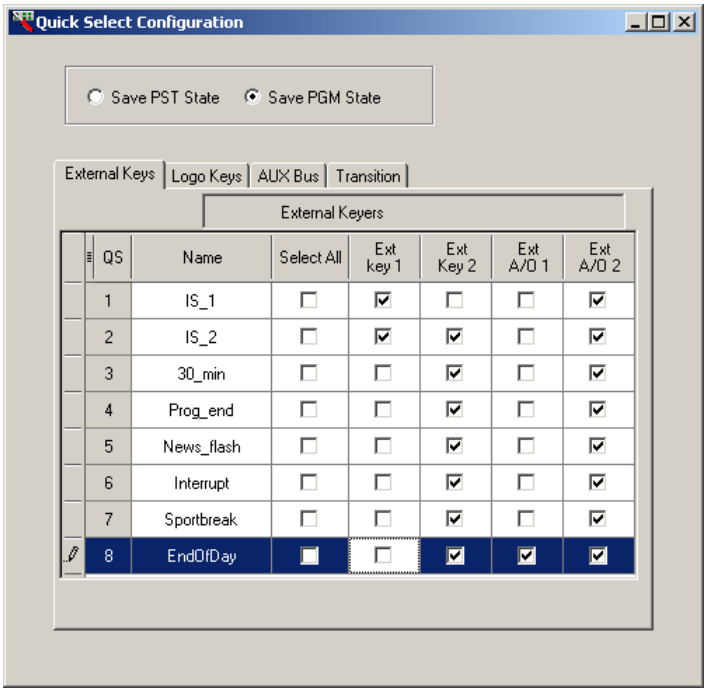


Figure 9-15 External Keys Quick Select Dialog Box

When you enable **External Keys** selections, you recall the state of the settings assigned to the keyer at the time the quick select was saved. You can enable or disable selected keyers, which will remove those keyer functions from the corresponding quick select.

When there is a check mark for Ext Key 1 and Ext Key 2 for a Quick Select, that quick select will store and recall the visual conditions of that keyer, including its transparency, screen location, etc.

When there is a check mark for Ext A/O 1 and Ext A/O 2 for a Quick Select, that quick select will store and recall those external audio overs.

Click **Select All** to select both external logo keys and both audio overs on that Quick Select. Click **Select All** again to unselect all components of both external logo keys and both audio overs for that Quick Select (row).

Quick Selects for Internal Logo Keys

Each of the four internal logo keys can have its state and/or its content saved as part of a Quick Select.

Note: *If you have an IconMaster Lite license key, options for Internal Keys will be unavailable.*

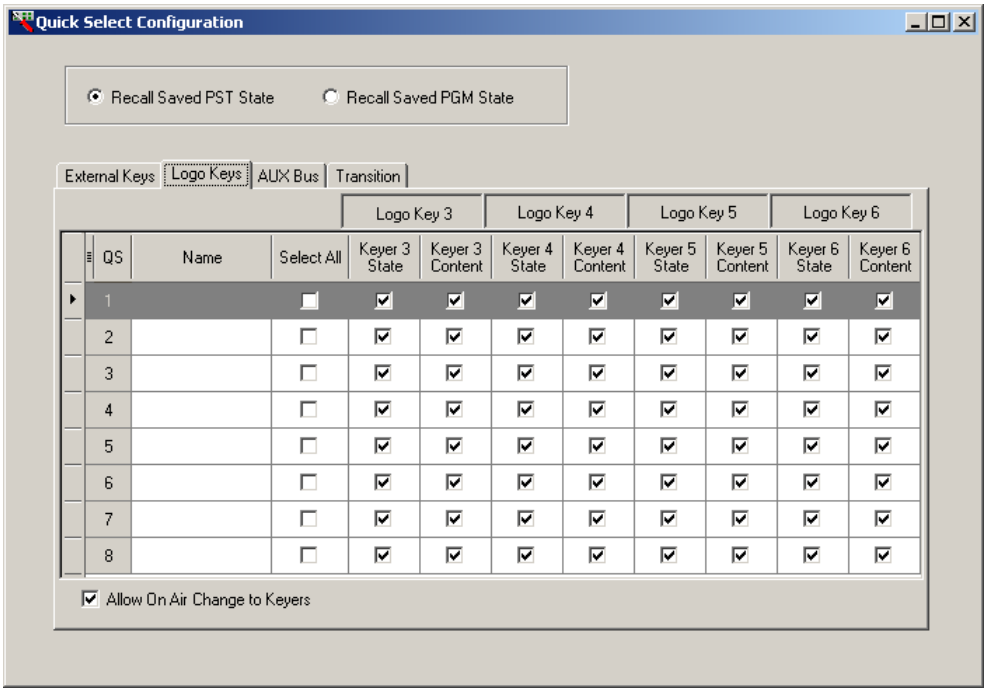


Figure 9-16 Logo Keys Quick Select Dialog Box

For Logo Keys 3- 6, you can choose to store the state and/or content as part of the Quick Select. Selecting the Select All box will store state and content for all keyers for that quick select.

Table 9-5 Settings for Each Internal Keyer

Keyer Setting	Function
Keyer (3 - 6) state	Whether the keyer is on or off
Keyer (3 - 6) content	The Logo #, Transparency, processing, etc. that are applied to that internal keyer

Select All will select all internal logos for that quick select. Each of the check boxes in the quick select row indicated whether the function listed at the top of the dialog box will be recalled during that quick select operation.

If you select the **Allow On-air Changes to Keyers** check box, when the data stored in this Quick Select is recalled, the keyers will be updated on the PGM monitor. If this check box is not selected, Then when the Quick Select is recalled, the contents of the keys that are currently on the PGM monitor will not change. This will not change the state of the keys, though, and the keys can still come off air. This setting is a global setting that applies to all Quick Selects, for example to protect station branding.

Quick Selects for Aux Buses

For each Quick Select, you can choose to recall the contents of any or all of the 12 Aux buses.

Note: *To avoid excess router switching traffic during a quick select recall, deselect all unnecessary Aux busses in quick selects that are in use.*

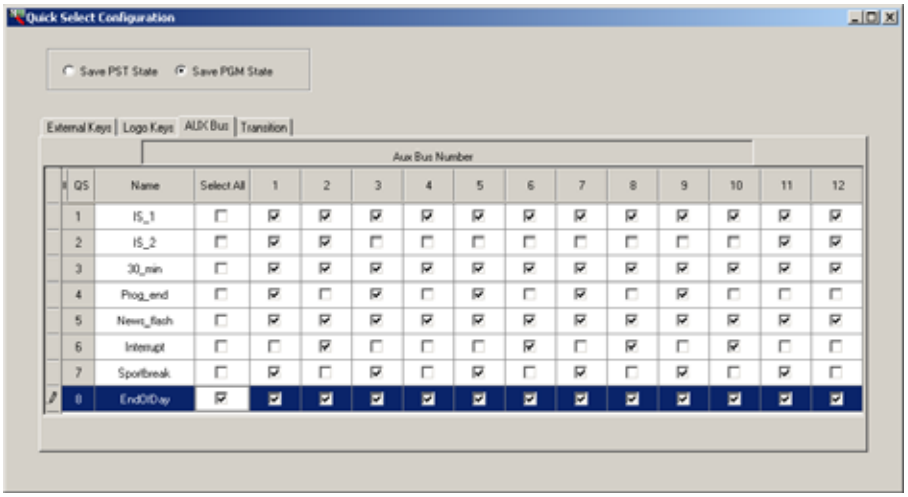


Figure 9-17 Aux Bus Keys Quick Select Dialog Box

Click **Select All** to select all the Aux Buses for that particular Quick Select. Click Select All again to unselect all the Aux Buses.

Quick Selects for Transitions

The **Transition** tab of the Quick Select Configuration dialog box lists various components of a transition.

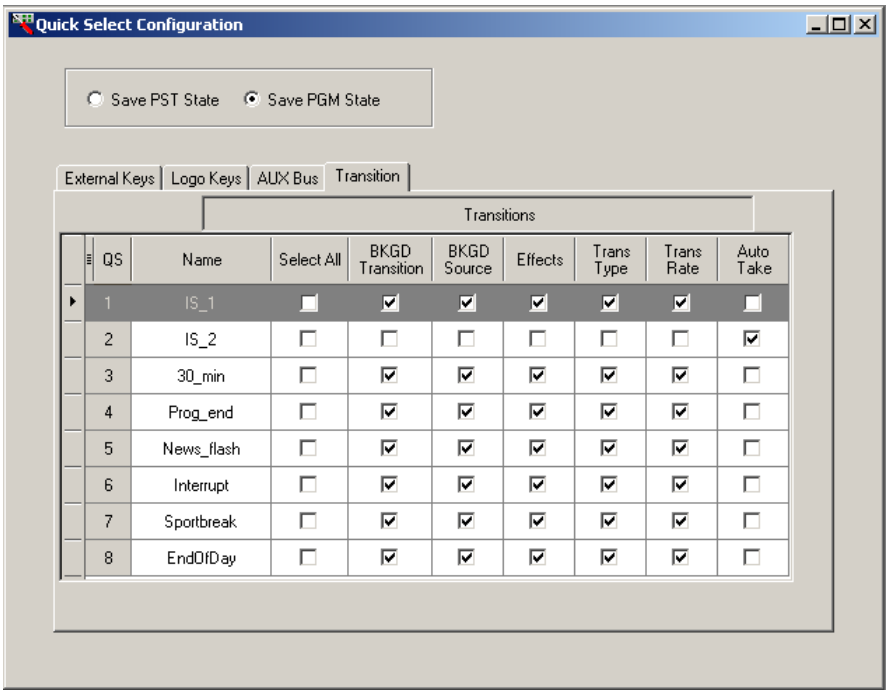


Figure 9-18 Transitions Quick Select Dialog Box

By selecting a Transition check box, you recall the state of the transition settings, as described in **Table 9-6**.

Table 9-6 Quick Selects Options for Transitions

Quick Select Option	
Background Transition	Saves and recalls the state of the BKGD button on the control panel
Background Source	The source that is on the Preset bus (whether the background is on or off)
Effects	All effects that are set on the transition
Transition Rate	The preset duration for transitions
Transition Type	The shape of the transition

Click **Select All** to enable all transition features for that quick select. Click **Select All** again to unselect all transition features for that Quick Select.

If **Auto Take** is selected, when the Quick Select is recalled to the PST, and a take is activated to send the PST content to the PGM. The previously shown PST content is not preserved. If **Auto Take** is not selected, you can achieve the same effect by pressing Take on the Control Panel.

Note: *A breakaway transition cannot be saved in a Quick Select.*

Audio Cluster Settings

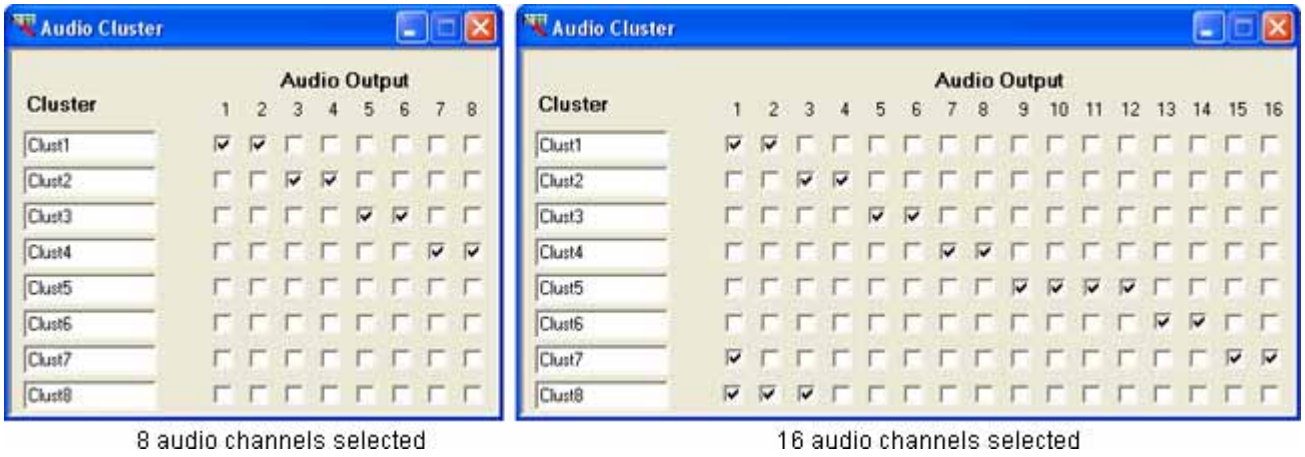


Figure 9-19 Audio Cluster Dialog Box[1]

An Audio Cluster is a group of audio channels whose gain can be adjusted as a group. A cluster can have up to 16 audio channels. The number of outputs corresponds to the number of audio channels selected at the Audio Configuration dialog box (see page 129). Typically, a cluster is a grouping of similar audio channels, such as MAIN+SAP or SURROUND (6 channels).

[1] This dialog box is for use with the optional IconMaster audio control panel.

In the Audio Cluster dialog box, you can setup up to 8 audio clusters by selecting the audio channels you wish to group together. A specific audio channel can appear in more than one cluster. (For example, in **Figure 9-19** audio channels 3 and 4 appear in Clust2; audio channels 7 and 8 appear in Clust4.) The cluster name can be edited by selecting the name field, and then typing a new name.

The default setting is for an audio cluster to be the same as an AES audio channel pair. This means cluster 1 is AES channel pair 1, cluster 2 is AES channel pair 2, etc.

Audio Cluster gain is adjusted directly from the IconMaster RCP control panel's optional audio control panel.

Keyer Settings

The Keyer dialog box allows you to give a name to the external keyers. These names are displayed on the keyer LCD displays of the RCP control panel.

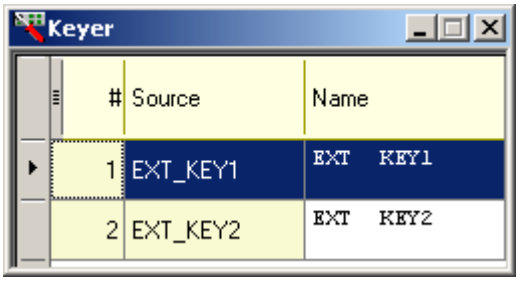


Figure 9-20 Keyer Dialog Box

Changing a Keyer Input Source Name

To change the Name of the input source, double-click the name in the cell, and then enter a new name. The length of the name is limited to 10 characters (including spaces), over 2 lines, with a maximum of 5 characters per line.

Control Group Settings

The **Control** group on the left side of the IconMaster configuration software screen includes the following dialog boxes: Machine Control and GPI-GPO.

Figure 9-21 Control Menu Group

This menu group controls the machine control and GPI-GPO configuration functions, as shown in **Figure 9-21**.

Machine Control Settings

The Machine Control dialog box allows you to set the appropriate control functions for automation.

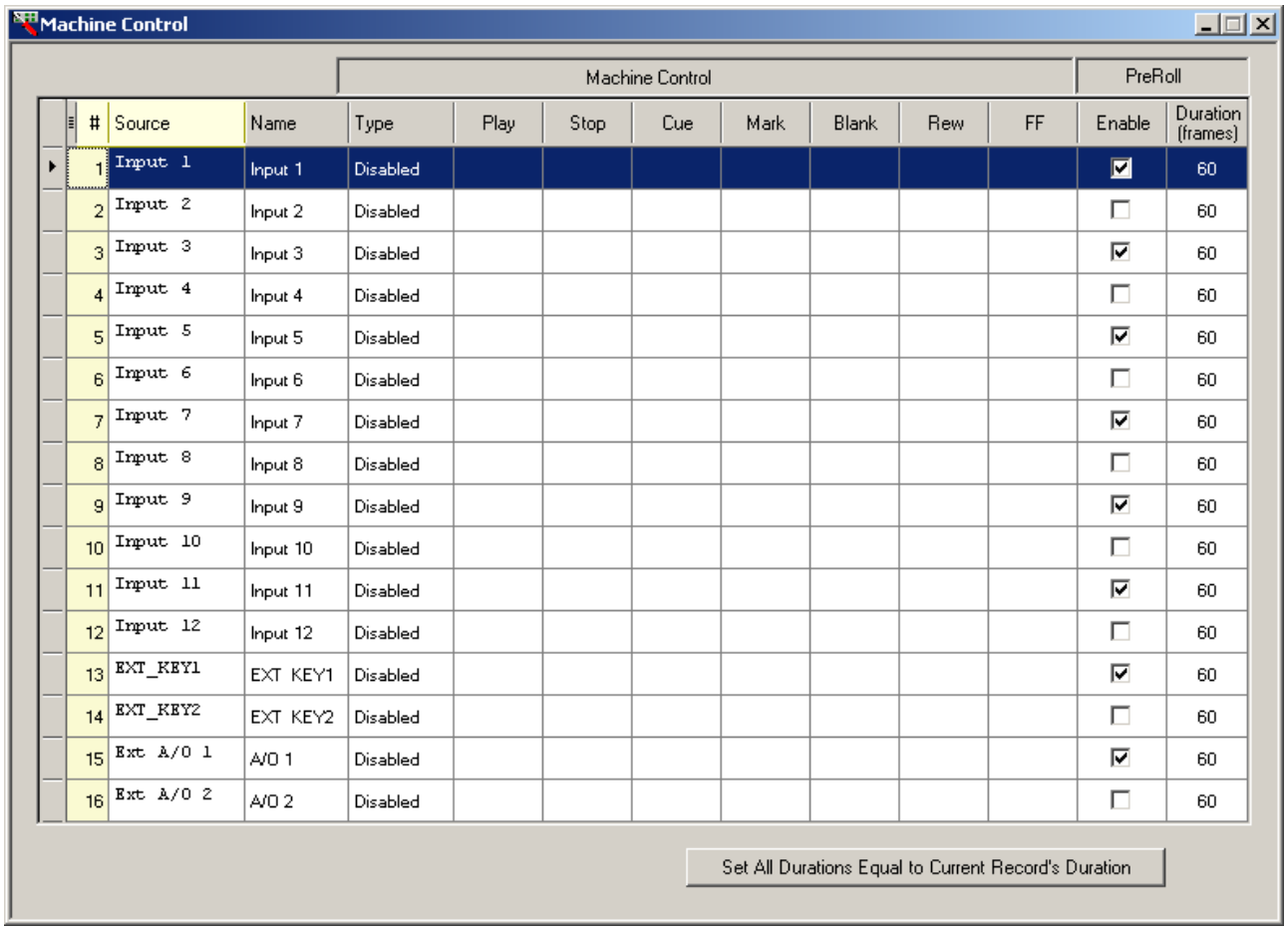

Machine Control
Machine Control
PreRoll
Source Name Type Play Stop Cue Mark Blank Rew FF Enable Duration (frames)
1 Input 1 Input 1 Disabled 60
2 Input 2 Input 2 Disabled 60
3 Input 3 Input 3 Disabled 60
4 Input 4 Input 4 Disabled 60
5 Input 5 Input 5 Disabled 60
6 Input 6 Input 6 Disabled 60
7 Input 7 Input 7 Disabled 60
8 Input 8 Input 8 Disabled 60
9 Input 9 Input 9 Disabled 60
10 Input 10 Input 10 Disabled 60
11 Input 11 Input 11 Disabled 60
12 Input 12 Input 12 Disabled 60
13 EXT_KEY1 EXT KEY1 Disabled 60
14 EXT_KEY2 EXT KEY2 Disabled 60
15 Ext A/O 1 A/O 1 Disabled 60
16 Ext A/O 2 A/O 2 Disabled 60
Set All Durations Equal to Current Record's Duration

Figure 9-22 Machine Control Dialog Box

Using the Machine Control functions, you can perform the following actions:

- Coordinate GPI/GPO and machine control events
- Select the automation type
- Select the machine control settings
- Temporarily disable selected machine control settings

The **Source** column indicates the selected source. This column is read-only; you cannot make changes here.

The **Name** column indicates the selected sources' name. This column is read-only; you cannot make changes here.

Configuring GPI/GPO Events to Machine Control

If you configure GPI or GPO events to machine control, you must ensure both GPI/GPO and Machine Control settings are set up correctly. See **Figure 9-23** for the coordinating GPI-GPO and Machine Control settings.

Note: *GPOs and GPIs can use the external interfaces. When using an external interface, 48 additional GPOs and 48 additional GPIs are available.*

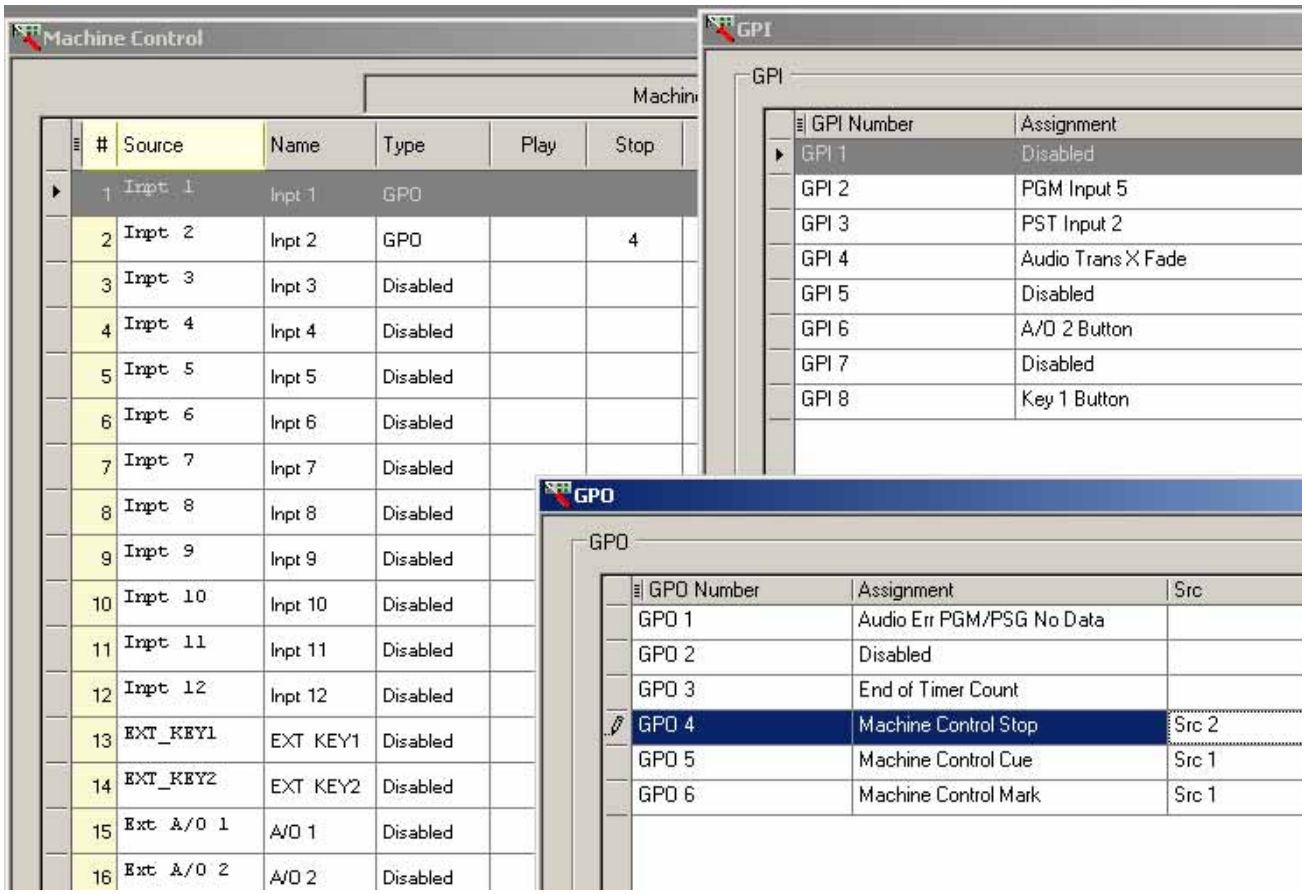

Machine Control
Machin
Source Name Type Play Stop
1 Inpt 1 Inpt 1 GPO
2 Inpt 2 Inpt 2 GPO 4
3 Inpt 3 Inpt 3 Disabled
4 Inpt 4 Inpt 4 Disabled
5 Inpt 5 Inpt 5 Disabled
6 Inpt 6 Inpt 6 Disabled
7 Inpt 7 Inpt 7 Disabled
8 Inpt 8 Inpt 8 Disabled
9 Inpt 9 Inpt 9 Disabled
10 Inpt 10 Inpt 10 Disabled
11 Inpt 11 Inpt 11 Disabled
12 Inpt 12 Inpt 12 Disabled
13 EXT_KEY1 EXT KEY1 Disabled
14 EXT_KEY2 EXT KEY2 Disabled
15 Ext A/O 1 A/O 1 Disabled
16 Ext A/O 2 A/O 2 Disabled
GPI
GPI
GPI Number Assignment
GPI 1 Disabled
GPI 2 PGM Input 5
GPI 3 PST Input 2
GPI 4 Audio Trans X Fade
GPI 5 Disabled
GPI 6 A/O 2 Button
GPI 7 Disabled
GPI 8 Key 1 Button
GPO
GPO
GPO Number Assignment Src
GPO 1 Audio Err PGM/PSG No Data
GPO 2 Disabled
GPO 3 End of Timer Count
GPO 4 Machine Control Stop Src 2
GPO 5 Machine Control Cue Src 1
GPO 6 Machine Control Mark Src 1

Figure 9-23 Coordinating Machine Control and GPI/GPO Settings

Selecting Automation Types

The **Type** column indicates if the input you have selected (**1** through **12**) will trigger **GPO**s (GPI Outputs), **Serial** protocol, or—through the **Disabled** option— normal functionality of the selecting source. The GPO configuration is common for all input types. If you have selected a GPO that is already configured in the GPI-GPO dialog box, a message will warn you that this action will affect the settings of your previously configured GPO.

The **GPO** option offers sources **1** to **13** and the **Serial** offers device IDs **0** to **31**. When **Serial** is selected, the Device ID value becomes the same for all functions.

Selecting Machine Control Settings

If you have selected **GPO** or **Serial** as automation type, the Machine Control columns (**Play, Stop, Cue, Mark, Blank**, **Rewind**, and **Fast Forward)** are enabled, and you may select values from the drop-down list boxes.

Disabling Machine Control Settings

Select the **Disabled** check box to temporarily disable any **Machine Control** settings you have made. (This is the default setting for the Automation Type.)

Preroll Functions

Using the **Preroll** functions, you can perform the following actions:

- Enable the preroll status
- Set or reset the preroll duration

Enabling Preroll Status

The **Enabled** check box enables the preroll status for that output. If you select **Enabled**, but have **Disabled** selected under **Type**, no action will occur.

Setting/Resetting Preroll Duration

The **Preroll Duration (Frames)** sets the duration of the preroll from 0 to 600 frames. The default value is 60.

To make all of the preroll times match the preroll time of the selected item, press **Set All Durations Equal to Current Record's Duration**.

Note: *If dynamic router control is selected for the Primary Input, then Machine Control is not allowed for that input.*

GPI Settings

To use external GPIs, you must first enable them on the ICU Network page (see page 164), and configure the JLCooper eBOX (see their documentation for details).

Note: *If configuring an IconMaster LITE, fewer GPI and GPO selections are available. IconMaster LITE has 8 GPI and 7 GPO.*

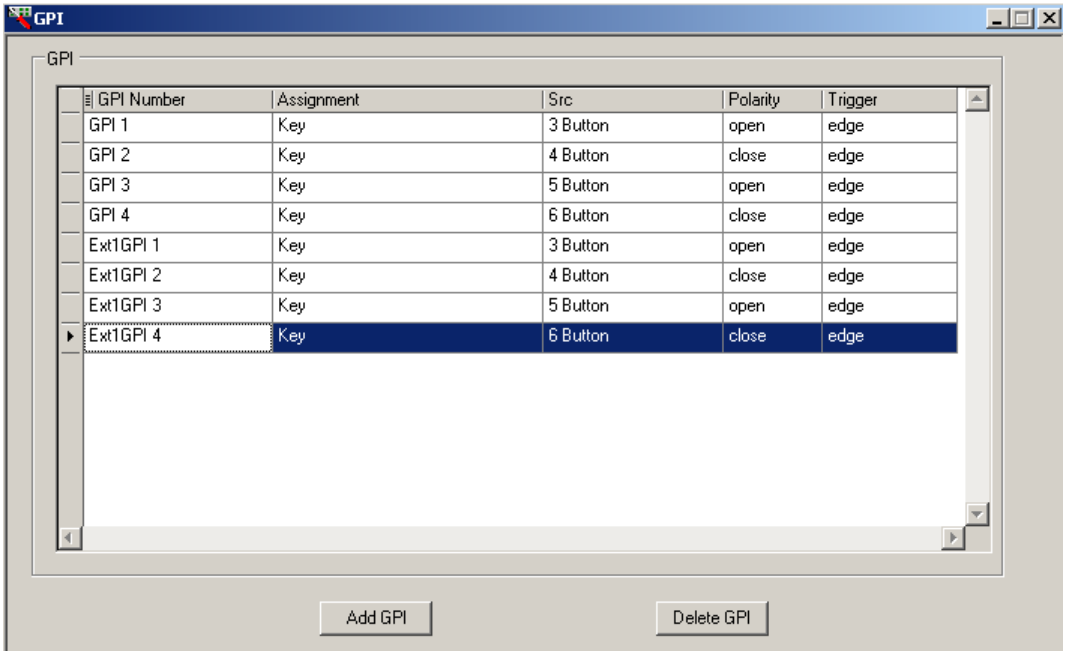


Figure 9-24 GPI Settings Dialog Box

Using the GPI dialog box, you can perform the following actions:

- Add or delete a General Purpose Interface input (GPI)
- Assign a trigger to a GPI source (GPI sources are assignable to Quick Selects, Bus selections, and different transition types and rates)
- Coordinate GPI and machine control events
- Specify polarity of the GPI
- Set up the trigger function
- Choose what interface the GPI comes from

The operational polarity for open and closed settings varies depending on the source of your GPI triggers.

- When using an Internal GPI from the IconMaster breakout box, if the polarity is set to open/edge, when the defined GPI is closed, the function is triggered. If the polarity is set to close/edge and the defined GPI is opened, the function is triggered.
- When using an eBOX GPI (represented in **Figure 9-24** as an **ExtGPI** in the **GPI Number** column), if the polarity is set to open/edge, the defined GPI is opened from closed, the function is triggered. When the polarity is set to close/edge and the defined GPI is closed, the function is triggered.

Adding a GPI

To add a GPI:

1 Click **Add GPI** at the bottom of the **GPI** dialog box.
A new row appears in the GPI table.

2 Click the **GPI Number** field to open a drop-down menu, and then choose a GPO.

3 Click the **Assignment** field to open a drop-down menu, and then choose one of the many possible triggers.

Table 9-7 GPI Assignment Options

Options	
Disabled	PGM input (1 - 12)
PST input (1 - 12)	Video Trans
Audio Trans	Preroll Button
Take Button	FTS Button
FTB Button	Key to Air
AO to Air	BKGD Button
Key (1 - 6) Button	A/O (1 - 2) Button
Quick Select (1 - 8) Button	Automation Hold

Any changes you make to each GPO Assignment drop-down menu automatically are reflected in the GPO drop-down box in the Keyer dialog box.

***Note: Key to Air** and **AO to Air** allow a keyer or Audio Over to be active on air as long as the GPI is active. These are recommended for use with EAS systems, where the EAS alert system can drive a GPI on the IconMaster to enable the Audio Over content coming from the EAS system.*

4 Type a source in the **SRC** field.

5 In the **Polarity** column, set the GPO to **Open** or **Closed**.

6 Set the trigger function to **Edge** or **Level.**
The examples below provide a scenario where a GPI source is used to select between 2 assignments (A and B), and when using an eBOX as the trigger source:

- If Open polarity is used for the Level option:
  - When the Polarity = Closed (not set) and Trigger = Level, select source A.
  - When the Polarity = Open (set) and Trigger = Level, select source B.
- If Open polarity is used for the Edge option:
  - When the polarity changes from Closed to Open and Trigger = Edge, switch from source A to source B. Nothing happens when the polarity changes back from Open to Closed.
  - When the polarity changes again from Closed to Open and Trigger = Edge, switch from source B to source A. Nothing happens when the polarity changes back from Open to Closed.

Deleting a GPI

To delete a GPI, highlight the entry you want to remove, and then click the **Delete GPI** button.

GPO Settings

To use external GPOs, you must first enable them on the ICU Network page (see page 164), and configure the JLCooper eBOX (see their documentation for details).

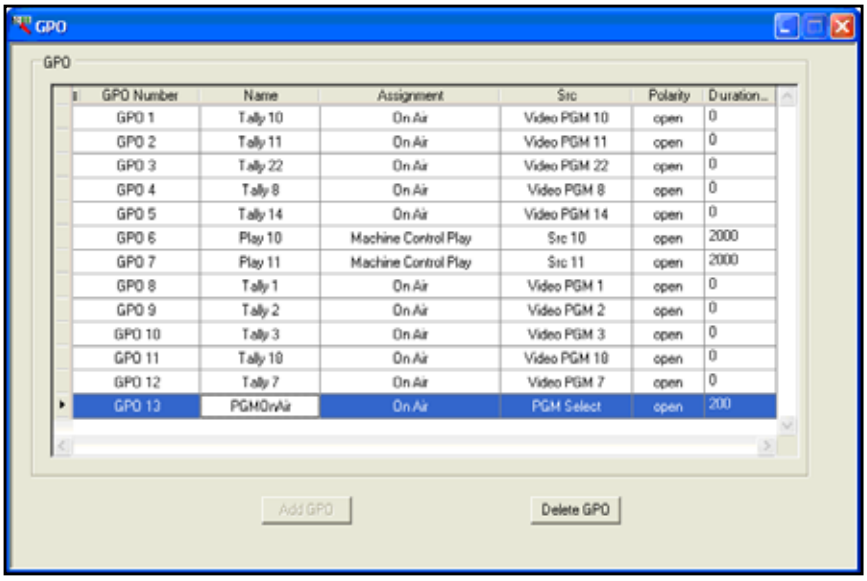

GPO
GPO
GPO Number
Name
Assignment
Src
Polarity
Duration...
GPO 1 Tally 10 On Air Video PGM 10 open 0
GPO 2 Tally 11 On Air Video PGM 11 open 0
GPO 3 Tally 22 On Air Video PGM 22 open 0
GPO 4 Tally 8 On Air Video PGM 8 open 0
GPO 5 Tally 14 On Air Video PGM 14 open 0
GPO 6 Play 10 Machine Control Play Src 10 open 2000
GPO 7 Play 11 Machine Control Play Src 11 open 2000
GPO 8 Tally 1 On Air Video PGM 1 open 0
GPO 9 Tally 2 On Air Video PGM 2 open 0
GPO 10 Tally 3 On Air Video PGM 3 open 0
GPO 11 Tally 10 On Air Video PGM 10 open 0
GPO 12 Tally 7 On Air Video PGM 7 open 0
GPO 13 PGMOnAir On Air PGM Select open 200
Add GPO
Delete GPO

Figure 9-25 GPO Settings Dialog Box

Using the GPO (GPI out) dialog box, you can perform the following actions:

- Add or delete a General Purpose Interface output (GPO)
- Name a GPO
- Assign a trigger to a GPO source
- Specify the polarity
- Set the duration

Setting Operation Precedence

If an IconMaster GPO is assigned on the GPO page of ICU, it will take precedence over the GPO operations if the same GPO is assigned to an RCP soft LCD button. In this case, the RCP soft LCD button will have no effect. Thus, if you wish to assign a GPO to an RCP soft LCD button, the GPO's setting on the GPI-GPO page of ICU should be set to **Disabled**.

Adding a GPO

To add a GPO:

1 Click **Add GPO** at the bottom of the **GPO** dialog box.
A new row appears in the GPO table.

2 Click the **GPO Number** field to open a drop-down menu, and then choose a GPO.

3 Enter a logical name in the **Name** column.
This name will be shown on the RCP panel, remind operators what the GPO will do.

4 Click the **Assignment** field to open a drop-down menu, and then choose one of the many possible triggers.
Any changes you make to each GPO Assignment drop-down menu automatically are reflected in the GPO drop-down box in the Keyer dialog box.

5 Click the **SRC** field to open a drop-down menu, and then choose a source.

6 In the **Polarity** column, set the GPO to **Open** or **Closed**.

7 In the **Duration** column, type the duration of the GPO.

The maximum duration is 900 ms. To have the GPO stay on, leave the Duration cell empty or set it to 0.

If you configure GPO events to machine control, on the **Machine Control** dialog box, you must ensure that machine control is enabled for that **GPO** is enabled under the **Type** column, and that **Preroll** is **Enabled** for sources that have a GPO trigger assigned. See page 150 for more information.

Deleting a GPO

To delete a GPO, highlight the row you want to remove, and then click **Delete GPO**.

System Config Group Settings

The **System Config** group on the left side of the IconMaster configuration software screen includes the following dialog boxes: Genlock and Standard, Router Configuration, System Config, Automation Config, Network, License Management, Serial Port, Multiviewer, and Clock and Timer.

Figure 9-26 System Configuration Menu Group

This menu group controls the genlock/standard, router, system, automation, network, license management, serial port, clock and timer, and multiviewer configuration functions, as shown in **Figure 9-26**.

Genlock and Standard Settings

The **Genlock and Standard** dialog is a very specific function dialog box. Using this box, you can perform the following actions:

- Select an operating standard
- Select a genlock source type
- Set the timing for the IconMaster system

- Get the timing report for the IconMaster system

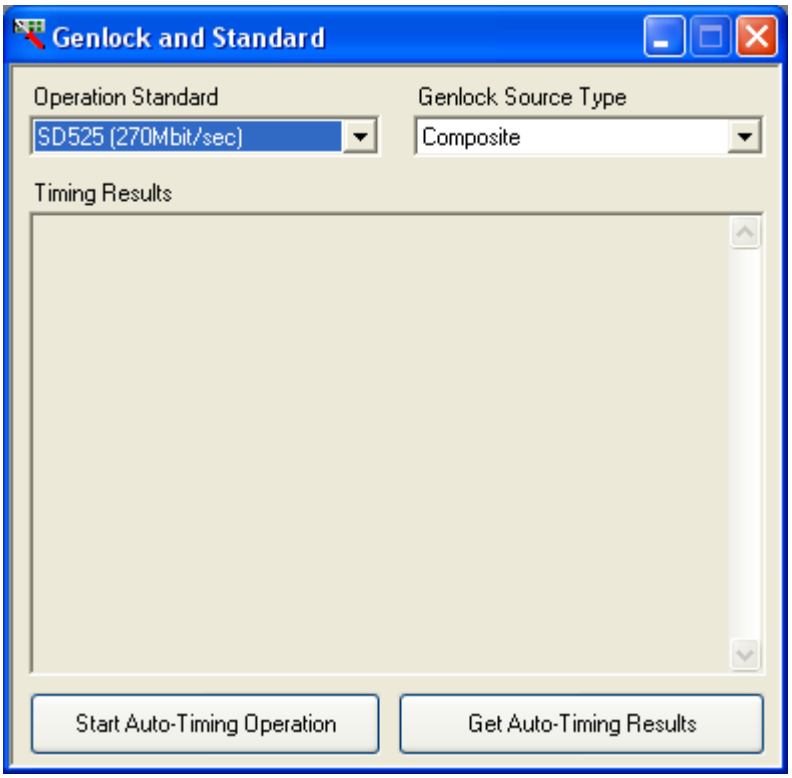


Figure 9-27 Genlock Dialog Box

Selecting an Operating Standard

To select an operating standard, select the required standard from the **Operation Standards** pull-down menu.

Note: *When changing between HD operating standards (for example, from 1080I to 720P), you must repower the IconMaster.*

Selecting a Genlock Source Type

Select either **Composite** or **Tri-Level** from the **Genlock Source Type** pull-down menu. The default **Genlock Source Type** is **Composite**.

Adjusting the IconMaster System Timing

Note: *Do not initiate a timing setup until all source inputs and destinations have been assigned in the primary inputs page, the appropriate configuration file has been applied to the IconMaster, and all input signals are applied and stable.*

1 Press the **Set Auto-Timing Operation** button, and then click **Yes** after confirming all keyers are in an off-air state.

This action causes the IconMaster system to adjust the horizontal and vertical phase of the reference input so that the most number of inputs have their vertical timing value at zero. The results of this function are *not* displayed in the **Timing Results** area. Ensure that the external keys are taken off-air before you run the **Set Timing** procedure.

2 Allow the Timing operation to run for 1 minute.

3 Press the **Get Auto-Timing Results** button to retrieve the new timing reading from the IconMaster.

Note: *The system phase values let you know how much the reference input had to be delayed so that the video inputs would be within a 1 video line of the reference input. The* ***Get Timing*** *results are not a real-time indication of each input's timing offset. If an input's timing has changed, you must activate* ***Set Timing*** *again to retrieve the current results.*

These results will be displayed in the **Timing Results** area. If external keys are on air when the Timing operation is initiated, the Timing results will show an error message, indicating that the timing setup was not run, and that the external keys must be taken off-air before **Set Timing** is run again.

4 Adjust the V phase timing for any source that is reported as not timed.

For example, if, after executing the **Set Timing** and **Get Timing** commands, you read a V phase value that equals 50, reduce the V phase timing of that input source by 50 lines.

5 Repeat steps 1 to 4 after adjusting the V phases of the sources, until all of the V phase values for the inputs are zero (i.e., the system is fully timed).

Router Configuration Settings

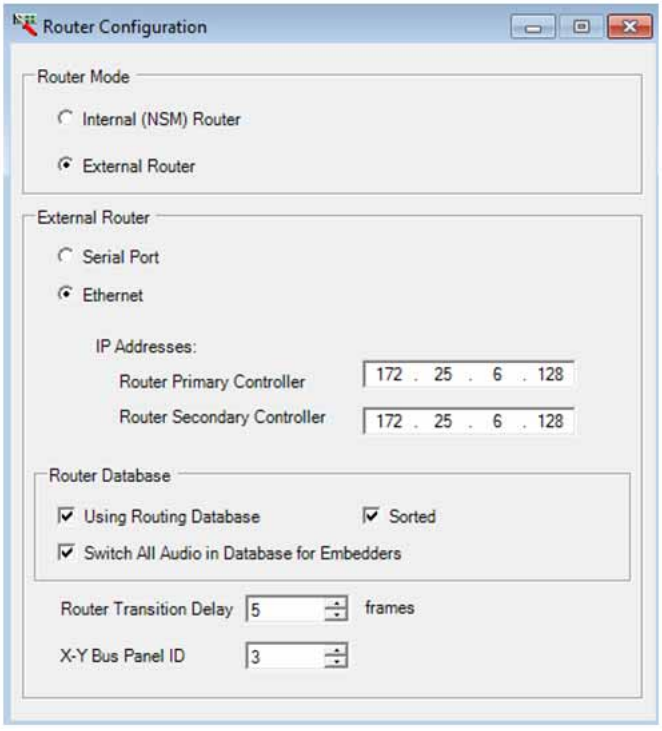


Figure 9-28 Router Configuration Dialog Box

The **Routing Configuration** dialog box (**Figure 9-28**) is used to set up the type of router which IconMaster uses as its primary source router.

- Router Mode

  If the IconMaster is configured with NSM type NEO module routers, select the **Internal (NSM) Router** setting. If any type of external router is used (Panacea, Integrator, Platinum, or third party), select **External Router**.
- External Router

  Choose either of the following:
  - Select **Serial Port** if you have a serial connection between the IconMaster and the router.
  - Select **Ethernet** if you have an Ethernet connection between the IconMaster and the router. When you choose this option, the selections for a router name and the IP addresses for primary and secondary controllers will become available.
  - If **Ethernet** is selected, serial port E is automatically released, and a pop up appears from ICU.

  In circumstances when you have primary and secondary router addresses configured, failover will take place.
- Router Database

  If the IconMaster is configured with static inputs (router sources are assigned to IconMaster inputs, without the operator ability to change the router assignments), then do not use the Router Database settings. However, if you wish to use the dynamic routing features of IconMaster, or to use an existing router database to select your IconMaster sources (regardless of Dynamic Routing use), select the **Using Routing Database** checkbox.
  - Selecting **Sorted** will optionally sort the router database alphanumerically.
  - If **Using Routing Database** is selected, you will need to create a router database and then send this database to the IconMaster through the Navigator application.

    You cannot use the native RouterMapper DA4 database; you must convert it into an XML format through CCS Navigator™. See page 187 for detailed instructions.
- **Switch All Audio in Database for Embedders** allows a configuration to switch up to 15 levels of audio as defined in the router configuration of an imported Navigator router database.
- Set the value in the **Router Transition Delay** spin box as appropriate for your router.
- The router transition delay can be a value between 1 and 15. For Platinum routers, typically a value of "5" is required. With most other routers, the default setting of "1" will suffice. Assessment of the performance of your channel release system should be performed to ensure that the router transition delay meets your station's requirements.

System Configuration Settings

The 22 Inputs option is grayed out because "External Router" is set to No on the Router Configuration page. See page 158.

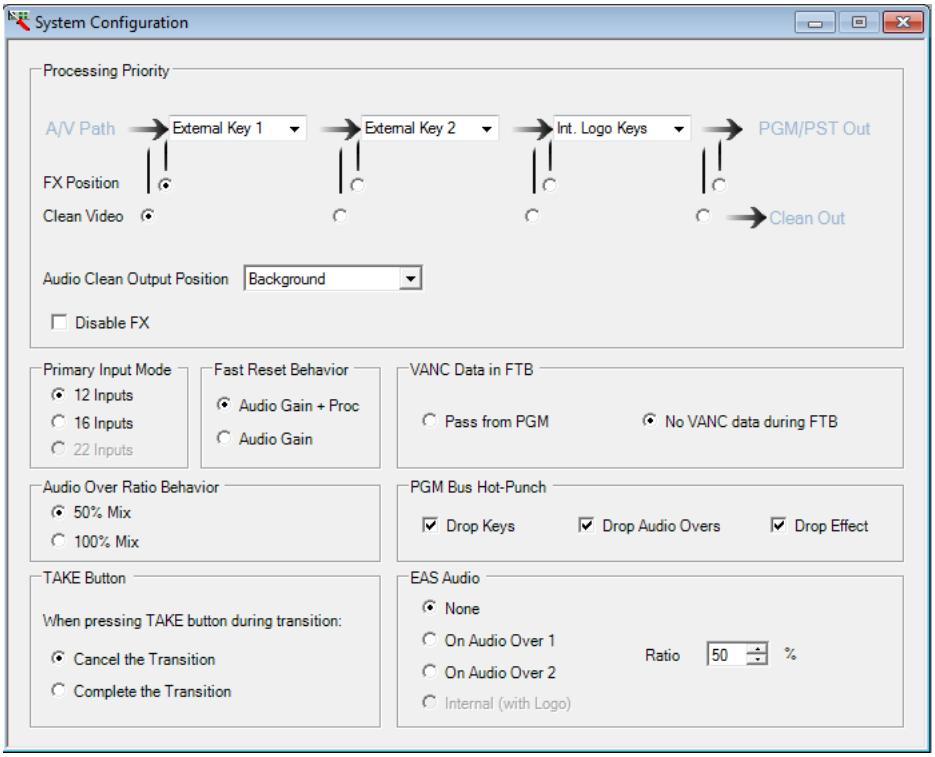


Figure 9-29 System Configuration Dialog Box

The **System Configuration** dialog box includes settings for various IconMaster system parameters, each of which is detailed below.

- Processing Priority

  The Processing Priority settings affect how the IconMaster routes internal video and audio signals. Use the drop-down boxes in the A/V Path group to change Keyer priority settings and assign the FX priority.

  The IconMaster has a separate Clean output which can be assigned as well. The video and audio pick positions for the Clean output can be set in the Processing Priority settings.
- If the **Disable FX** checkbox is checked, the IconMaster FX squeezeback effects engine will be disabled.
- Primary Input Mode

  This setting affects whether 12 or 22 primary inputs are available to IconMaster.
  - If **12 Inputs** is selected, the 12 primary source input buttons will select between all available input sources.

  If **22 Inputs** is selected, the primary source buttons will be split into one group of inputs numbered 1 – 11, and another group numbered 12 – 22. The far right primary source button will be used as the **SHIFT** button. When set to **22 Inputs** mode, the **SHIFT** button toggles between 1 – 11 and 12 – 22.

These modes are only available on ICONM-RCP devices, not on ICONM-RCP16.

Note: *It is strongly suggested that you retime the IconMaster system if you change from 12 to 22 input mode. This will ensure the additional 10 inputs are correctly timed into IconMaster. See page 156 for information on setting the timing for an IconMaster system.*

- Fast Reset Behavior

Note: *Fast Reset is not available on ICONM-RCP16 control panels.*

This setting allows you to quickly reset audio gain and/or **PROC** parameter settings for an IconMaster input source, internal or external keyer, Audio Over, or audio control item on the Audio Control Panel.

There are three separate operations that are enabled when the Fast Reset function is selected: **SET**, **CLEAR**, and **RECALL**. If the **SET** function is enabled, the parameter will not be reset, but its current value will be saved as the source's user-saved reset value. This is the value that will be used during a **RECALL** operation. If the **CLEAR** function is enabled, the user-saved reset value will be cleared (back to factory value), and the keyer's parameters will also be reset back to this factory value. If the **RECALL** function is enabled, the user-saved reset value set up through a **SET** operation will be applied.

Reset values can be either a factory reset values (0 dB gain, and default keyer values), or can be user-saved reset values, which are saved on a source-by-source basis for audio gains and on a keyer-by-keyer basis for keyer settings.

- If Audio Gain + Proc is selected, the IconMaster will reset the audio gains of the selected source or audio configuration item to unity. It also resets all PROC audio input parameters to their original default values.
- If **Audio Gain** is selected, the IconMaster will reset the audio gains of the selected source or audio configuration item to unity, but it will not reset any of the **PROC** audio input parameters.
- When fast resetting a keyer, all keyer parameters will be reset to their defaults.
- When fast resetting an Audio Over, the Audio Over mix ratio will be reset to 50/50.

- Take Button

  This setting affects the system behavior when the **TAKE** button is pressed during a transition.

- VANC Data in FTB

  This setting affects whether the PGM output includes VANC data from the PGM input source when the system is in the Fade to Black mode.

- PGM Bus Hot-Punch

  This setting defines what the IconMaster will do when a PGM bus source is hot-punched. By default, the IconMaster will drop all keys, audio overs, and all effects. By un-checking these settings, the IconMaster can be configured to retain the on-air keys, audio overs, and effects in progress.

- EAS Audio

  These settings affect how IconMaster responds to EAS (Emergency Alert System) triggers received.

  - If set to **None**, no audio will be altered during an EAS event.
  - If set to **On Audio Over 1** or **On Audio Over 2**, the selected audio over keyer will be turned ON during an EAS event, and turned OFF when the event completes. The Ratio setting adjusts the A/O ratio for the selected AO keyer during the EAS event.

Note: *Use of **On Audio Over 1** or **On Audio Over 2** as part of an EAS event may result in an undesired on-air operation if the EAS receiver terminates the EAS message to the IconMaster before the completion of the EAS audio message. Consider using a GPO from the EAS receiver, connected to a GPI using the **Key Enable** GPI function to maintain an active Audio Over while the EAS receiver is transmitting the EAS audio message.*

- Audio Over Ratio Behavior

  This setting allows you to specify the way the audio over ratio is interpreted by IconMaster. The default value for Audio Over ratio is 50%, which means full level mix for both AO and PGM. The 50% or 100% mix also applies to Logo Audio Overs.

  - If 50% Mix is selected as a mode of operation, at 50% ratio the Audio Over and PGM audio each make up 50% of the mix, and the level of each will be -3 dB.

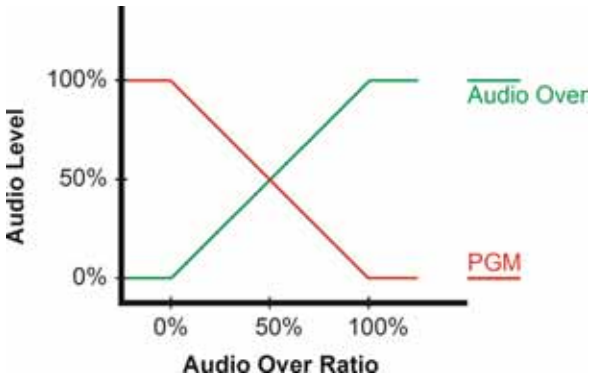


Figure 9-30 Audio Over Ratio in 50% Mix Mode

  - If **100% Mix** is selected as a mode of operation, at 50% ratio the mix will be 100% of Audio Over and 100% of PGM, and will decrease respectively as you move “left” or “right” of the 50% mark.

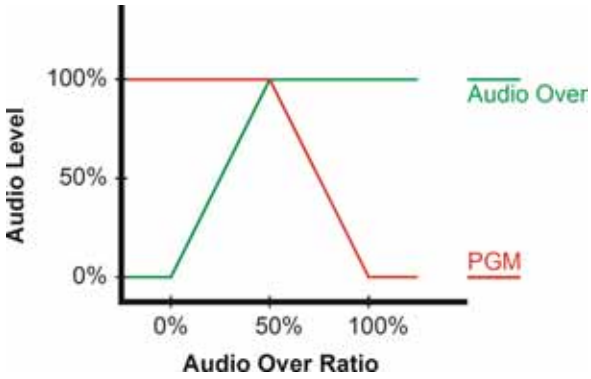


Figure 9-31 Audio Over Ratio in 100% Mix Mode

Automation Configuration Settings

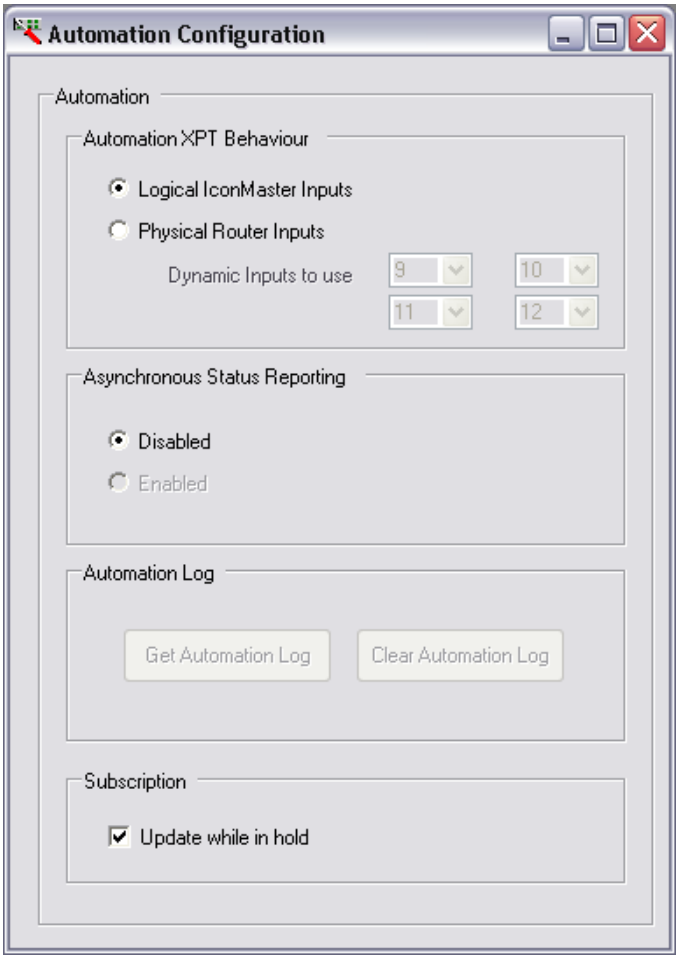


Figure 9-32 Automation Configuration Dialog Box

The **Automation Configuration** dialog box allows you to choose between logical IconMaster inputs or physical router inputs.

When you select **Logical IconMaster Inputs**, the Automation system will only be able to switch PST and PGM bus inputs that have been assigned (through the Primary Input dialog box) to inputs 1 to 12 or 1 to 22 (depending on your configuration).

When you select **Physical Router Inputs**, you can switch unassigned sources directly from a router to any four IconMaster PST and PGM bus inputs ranging from 1 to 12 (or 1 to 22) that you will select from the **Dynamic Inputs to Use** drop down list boxes. When you select an input, IconMaster will check to see if that particular input has been assigned already to any of the PGM or PST bus buttons. If not, it will assign your source the to first, or top left, drop-down input box, which corresponds to inputs 1-12 (or 1-22) on the PGM or PST bus.

Currently, **Asynchronous Status Reporting** and **Automation Log** are not supported.

If you want the automation system to change sources even while under hold, place a check beside **Update while in hold**.

Network Settings

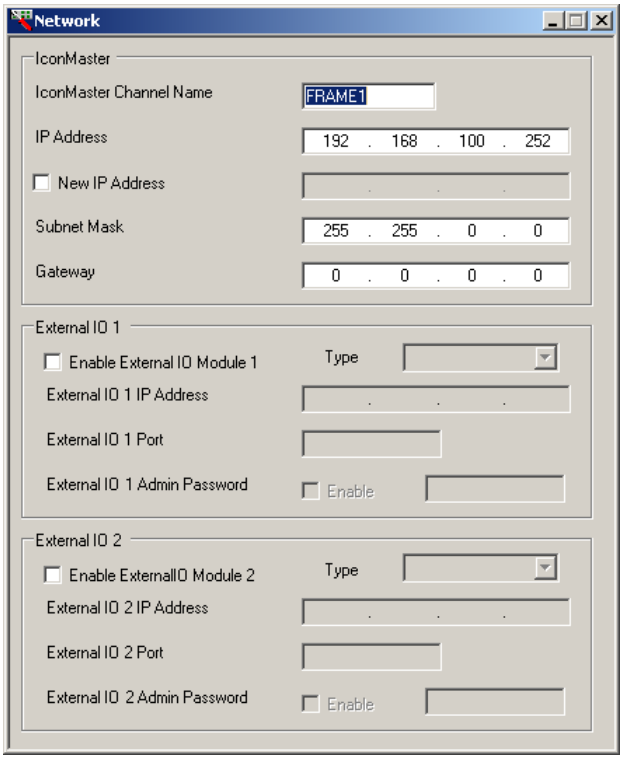


Figure 9-33 Network Dialog Box

The **Network** dialog box contains the network address settings that are necessary for the ICU program to communicate with the IconMaster's MKE-3901 module, and for the MKE-3901 to communicate with IconMaster's RCP control p anels. It also contains selections for external interface devices (such as the JLCooper Electronics eBOX® Quad Serial to Ethernet Interface[1]) and their corresponding network address settings.

You can rename each frame that contains IconMaster components by clicking in the **Iconmaster Channel Name** field, and then typing the new name. A maximum of 8 characters is allowed for a host name.

The default network IP address of the IconMaster's MKE-3901 module is **192.168.100.252**.

- If this address has not been changed on the MKE-3901 module, then this setting should not be changed.
- If you have changed the IP address of the MKE-3901 using the module's card-edge display, enter the new IP address in the **IP Address** field.

  If you are communicating correctly with the MKE-3901 module, and wish to change the IP address using the ICU software, select the **New IP Address** checkbox, and then enter a new IP address in the field to the right. The Subnet Mask and Gateway settings can also be set in this way.

  Note that after changing the MKE-3901 module's IP address, you will need to power cycle the IconMaster's MKE-3901 module, and put the new address into the **IP Address** field above.

You can connect to two external input/output devices through the boxes labeled **External IO 1** and **External IO 2**.

[1] eBOX is a trademark of JLCooper Electronics.

1 Select the **Enable External IO Module** checkbox, and then select the external device type from the drop-down list box.

2 In the corresponding list boxes, enter an IP address and a port number for the external device.

3 (Optional) Enable the External IO Admin Password checkbox, and then enter the appropriate system administrator pasword.

If the External IO 1 or External IO2 is enabled, additional GPO and GPI functions will become available in the GPO and GPI pages on page 153 and page 155.

See the JLCooper instruction manual for information on configuring the eBOX for use with IconMaster.

License Management Settings

The License Management dialog box contains information about license keys installed on your IconMaster systems.

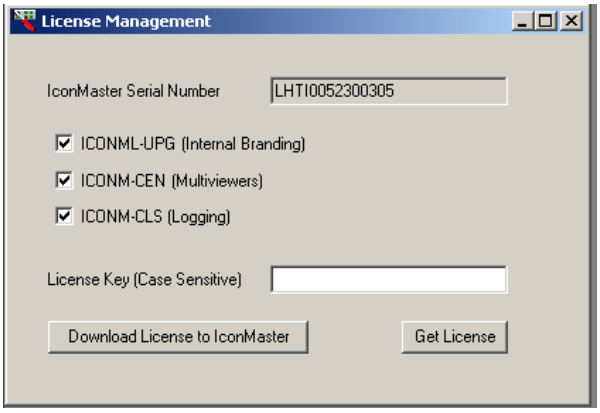


Figure 9-34 License Management Dialog Box

The following licenses are available for Iconmaster:

- **ICONL-UPG**: This licence option enables the INTERNAL keyers functionality of the Iconmaster, if an MGI3902 or MGI3903 board is installed.
- **ICONM-CEN**: This licence enables Iconmaster to integrate with multiviewers. See ***Multiviewer Configuration Settings*** on page 167.
- **ICONM-CLS**: This license is not supported.

To add a license key:

1 In the License Management dialog box, click **Get License**.

The I**conMaster Serial Number** field updates. If a license key is currently installed on the MKE-3901 board, the **License Key** field also updates.

2 Provide the IconMaster serial number to your Customer Service representative.

There are two ways to provide the serial number and receive your license key:

- By phone: Contact your Sales representative.
- By faxing or mailing a form to Imagine Communications: This form is available by clicking **License Form**. The form includes information on where it should be sent. (Acrobat Reader is required.)

3 Enter the provided key in the License Key field.

Your license should be recognized immediately. You must restart the IconMaster frame when the system is converted from IconMaster Lite to IconMaster.

Serial Port Configuration Settings

Note: *The JL Cooper external interfaces include configuration options for RS232 or RS422 operation, and are configured on the external interface, not within ICU.*

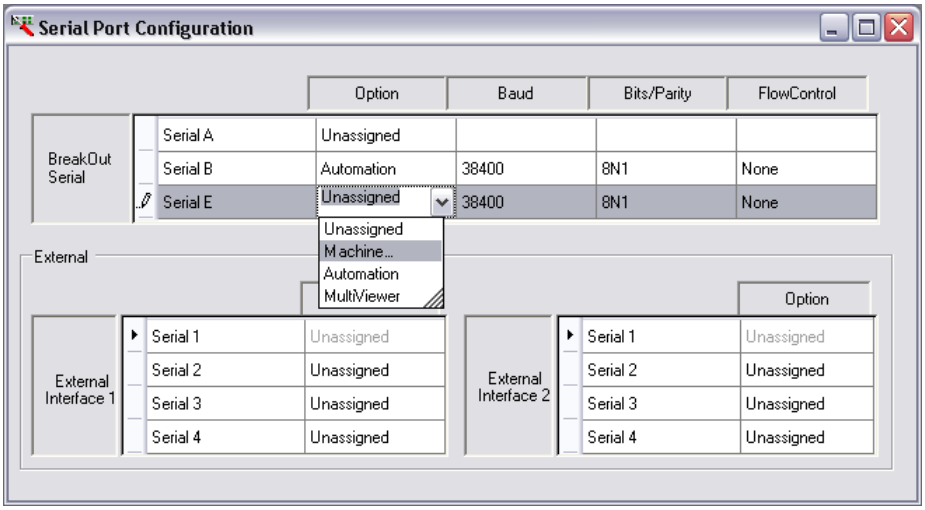


Figure 9-35 Serial Port Configuration Dialog Box

The IconMaster currently supports several serial port direct connections; however, you can expand the number of available serial ports with the ICONM-BO-V video breakout module (described in ***ICONM-BO-V Video Breakout Module*** on page 32) or an external interface device such as the JLCooper eBOX. The Serial Port Configuration dialog box allows you to reassign the serial ports' functions. If the Serial port baud rate, bits, parity or stop bits are changed, the IconMaster will require a restart.

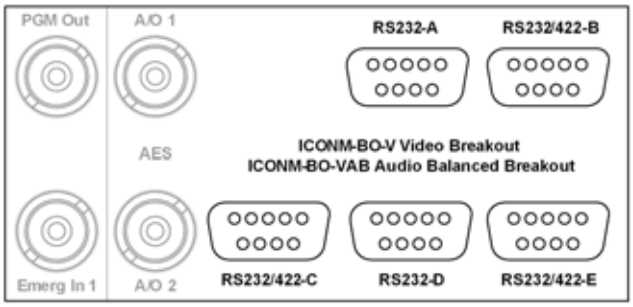


Figure 9-36 ICONM-BO-V Serial Ports

Note: *Because of real-time response considerations, certain functions will always be assigned to ICONM-BO-V serial ports C and D. You cannot change the functions for these ports.*

To change the serial port function of serial port A, B, or E on the ICONM-BO-V breakout module, highlight the name of the breakout module's serial port you want to configure, and then select a function from the Option drop-down list box.

Note: *In previous releases of IconMaster Configuration Utility, serial port A could be configured for Automation, Multiviewer, or Machine Control. With release 3.2.1, only Machine Control is allowed.*

To change the serial port function on a port on the external interface device, highlight the name of the external interface port, and then select a option from the drop-down list box. You must restart IconMaster if you change Serial port baud rate, bits, parity, or stop bits.

Note: *To ensure proper functionality, you should verify the IconMaster hardware configuration for RS-422 or RS-232 for use of internal serial ports.*

RS-232 pinouts are different between Port A and Ports B and E. See ***Installing Breakout Modules*** *on page 32 for wiring details.*

Multiviewer Configuration Settings

To use a compatible Imagine Communications multiviewer (HView SX Hybrid or PredatorII) with IconMaster, a valid license is required. See ***License Management Settings*** on page 165 for more information. If controlling a third party multiviewer via TSL protocol version 3.1, then a multiviewer license is not required.

IconMaster supports the following multiviewers:

- HView SX Hybrid (previously CENTRIO)
- PredatorII
- Third party multiviewers via TSL protocol version 3.1 (choose “other” as device type)

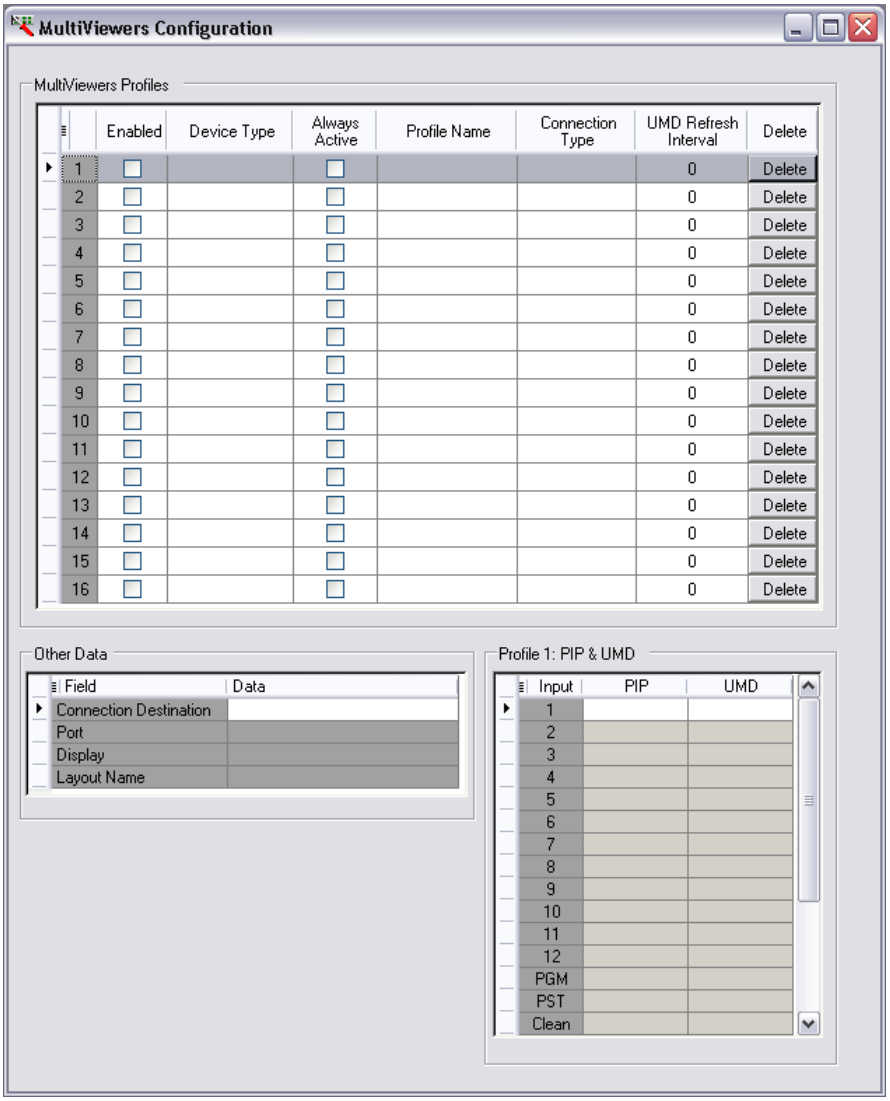


Figure 9-37 Multiviewer Configuration Settings Dialog Box

For each multiviewer display the IconMaster will be controlling, create a profile which defines the multiviewer system, display output, and (optionally) the layout to display. Within the layout, you can define the PIP and UMD numbers that correspond to the IconMaster inputs (sources) and also the IconMaster outputs.

Table 9-8 Multiviewer Profiles Table in Multiviewers Configuration

Item	Description
Enabled	Activates playout from IconMaster to this multiviewer
Device Type	Select one of the following: ■ HView SX Hybrid (CENTRIO) ■ Predator II ■ Other
Always Active	If selected, this profile will become the active profile, if no other profile is currently controlling the selected multiviewer display endpoint (multiviewer IP address and display number)
Profile Name	File name of the profile to be called

Table 9-8 Multiviewer Profiles Table in Multiviewers Configuration

Item	Description
Connection Type	Options are based on the device type selection, and can include Ethernet and serial ■ HView SX Hybrid (CENTRIO) only supports Ethernet connection ■ Other (device type option) only supports serial connection
UMD Refresh Interval	Determines the rate at which IconMaster will poll, measured in seconds
Delete	Clears the contents of the row, and contents of other associated tables (**Table 9-9** and **Table 9-10**)

For each row in the Multiviewers Profiles table, you can also configure other data, as displayed in **Table 9-9**.

Table 9-9 Other Data Table in Multiviewers Configuration

Item	Description
Connection Destination	For HView SX Hybrid, the IP address of the Ethernet connector on the hardware device
Port	The comm port the multiviewer connects through (leave blank if the multiviewer does not use a port)
Display	The display number (ID) to control (value between 1 and 4) corresponding to the physical multiviewer Display output DVI 1/2 or HD_SDI 1–4)
Layout Name	The name of the layout to be loaded (If the layout name is blank, the multiviewer will not be commanded to change layouts, thus leaving the existing layout on-screen; PIPs and UMDs will still be refreshed)

For each row in the Multiviewers Profile table, you can also configure PIP and UMD data, as displayed in **Table 9-10**.

Table 9-10 PIP & UMD Table in Multiviewers Configuration

Item	Description
Input	These items are defined in your multiviewer profile.
PIP	For each of PGM, PST, Clean, and every input source, enter the PiP associated with the text label that will be the recipient of the UMD data.
UMD	For each of PGM, PST, Clean, and every input source, enter the UMD address for that item.

These settings activate under monitor text labels and tally lights using a serial tally protocol. As a result, UMD text labels and serial tally indicators will be enabled on a multiviewer output device such as SuiteView.

Normally this will indicate, for example, the PIP on a video wall that is currently on the PGM monitor, PST Monitor, and/or Clean monitor.

IconMaster supports TSL protocol version 3.1.

Clock and Timer

For the clock and timer to be available, a button needs to be defined for each. See ***Button Configuration Settings*** on page 174.

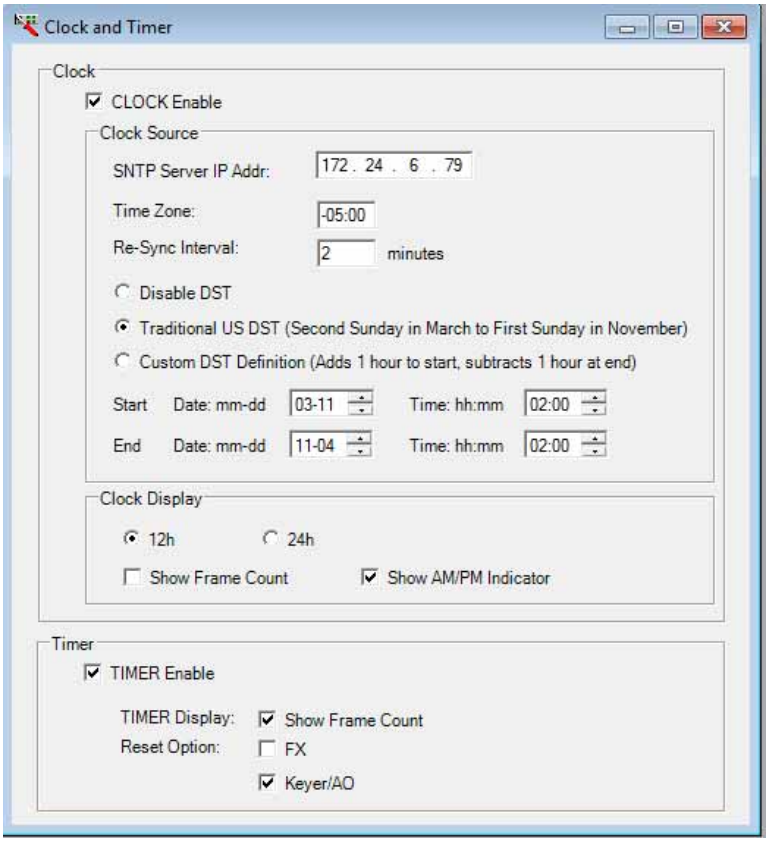


Figure 9-38 Clock and Timer Settings Dialog Box

The Clock and Timer dialog box includes settings for IconMaster's real-time clock and segment timer functions, each of which is detailed in **Table 9-11**.

Table 9-11 Clock and Timer Settings Options

Item	Description
CLOCK Enable	Enables IconMaster to synchronize its internal real-time clock with an external clock source. IconMaster uses the SNTP protocol across Ethernet to query an NTP time server.
CLOCK Source	Enter the IP address of an NTP time server, as well as a time zone offset. NTP time server provides UTC time, and requires the client (IconMaster) to provide a local time offset. By default, IconMaster will re-sync its clock every 60 minutes. This can be changed by editing the Re-Sync Interval field. If using IconMaster's RCP as the clock source, the RCP must be connected to an external LTC timecode time-of-day source. Enter the RCP's IP address as the SNTP Server IP Address. In this status, the local time offset (Time Zone) setting will be ignored by IconMaster. NOTE: ■ IconMaster does not maintain its real-time clock when power cycled. The NTP server (or RCP) must always be available when IconMaster powers up and during operations. ■ Press the CLOCK button on IconMaster's RCP to Re-Sync IconMaster's clock with the NTP server. ■ The DST **Start** and **End** time should be identically set to 02:00. One hour will be automatically adjusted from the 02:00.

Table 9-11 Clock and Timer Settings Options

Item	Description
Daylight Savings Time	IconMaster can automatically adjust for daylight savings time, if configured. If configuring a custom DST adjustment window, IconMaster will add one hour between the start and end times defined. NOTE: if configuring a custom DST window, the dates may need to be changed annually. If using IconMaster's RCP as the clock source, settings will be ignored by IconMaster, so just select **Disable DST**.
CLOCK Display	IconMaster can display the clock in either 12h or 24h formats. When configured for 12h format, IconMaster can display AM/PM indicators. The Frame Count can also be optionally displayed.
TIMER Enable	Enables IconMaster's segment timer functionality. When enabled, IconMaster will reset the segment timer to zero on each transition of the BKGD source.
Reset Timer	There are two options: **FX** and **Keyer/AO**. Check one or both of these options, and IconMaster will reset the segment timer on each FX transition and/or all keyer (video and Audio Over) transition.

Clock and Timer are managed by the MKE card(s). They are not local to an RCP but they can change depending on what MKE the RCP is connected to. If the LTC output of a RCP is set to track the timer, it will NOT reset at a segment end if the panel is not connected.

The clock display of an RCP connected to a MKE that has never synced up with an NTP server will be --:--:--.--.

The text on the clock will be inverted if an RCP connected to a MKE has failed to resync with NTP server. In this situation, the MKE is free running (relying on its own clock).

The LTC output is only available on the HRCP RoHS compliant version of the HRCP (855T RCP). The LTC output on the RCP is frame drop in 29.9, no frame drop in 25.

Logging Configuration

This feature is not currently supported.

Panels Group Settings

The Panel configuration menu group appears when you have selected "Control Panel Configuration" as your type of configuration.

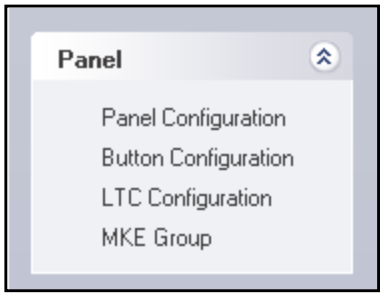


Figure 9-39 Panel Menu Group

This menu group controls the panel-specific configuration and panel network configuration functions, as shown in **Figure 9-39**. The functions controlled by this item group are described in the following sections.

Note: *When uploading a new panel configuration, the control panel will disconnect from any IconMaster channel currently under control, and will automatically connect to Channel 1. Similarly, all Primary and Secondary channel groups will be disconnected, and must be re-established.*

Panel Network Configuration Settings

Note: *See* ***MKE Group*** *on page 178 for information on how to complete the* ***Master Assignment*** *section of this screen when in Group mode.*

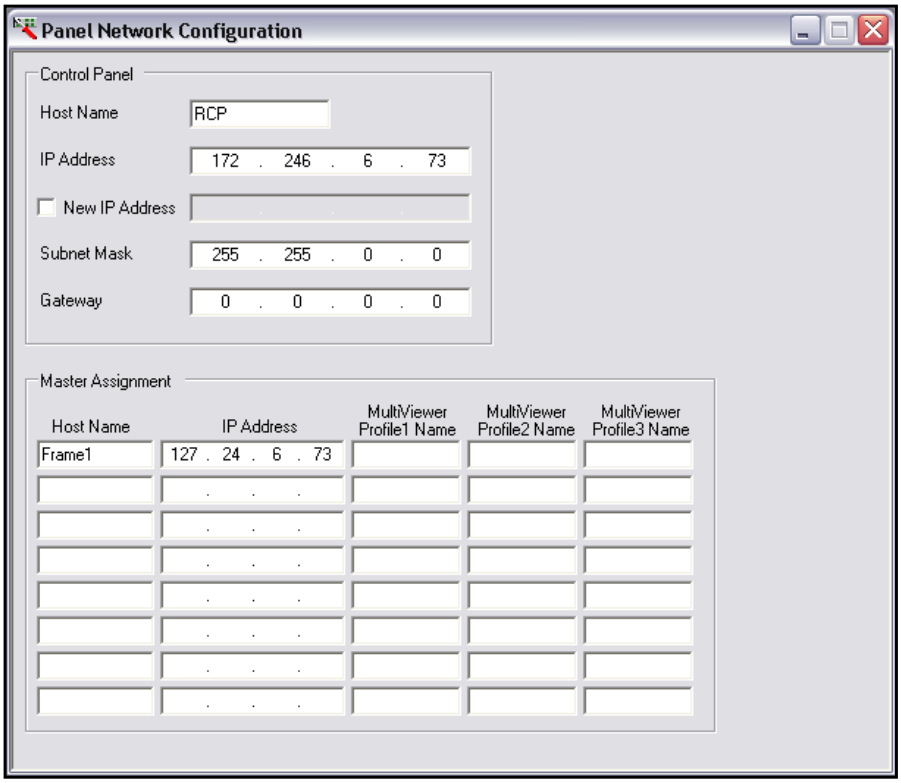


Figure 9-40 Panel Network Configuration Dialog Box

The **Panel Network Configuration** dialog box contains the network address settings that are necessary for the IconMaster control panels to communicate with the IconMaster MKE-3901 modules.

To change or set the name of the IconMaster control panel (up to 8 characters in length), click in the **Control Panel Host Name** field, and then type the new name. The factory default for the IconMaster control panel is **192.168.100.251**, and will be shown in the **Control Panel IP Address** field.

- To change the IP address of the IconMaster control panel, select the **New IP Address** check box, and then enter the new IconMaster Control Panel IP Address.
- To change the Subnet Mask, enter the new IP address in the **Subnet** field.
- To change the Gateway IP address, enter the new IP address in the **Gateway** field.

When you are not in Group mode, the **Master Assignment** section of the dialog box allows you to enter the names and IP addresses of up to 8 MKE-3901 modules that the IconMaster control panel can communicate with. To change or set the name of an IconMaster MKE-3901 module, click in the **Host Name** field, and then type the new name, up to a maximum of 8 characters.

Similarly, to change or set the address of the IconMaster MKE-3901 module, click in the **IP Address** field, and then type in the new IP address.

If you have configured the IconMasters to interface with multiviewers, you can assign up to three profiles to be automatically recalled and controlled when the RCP connects to the IconMaster. These profiles are setup and named for each IconMaster individually. See page 167 to configure the profiles.

When the RCP connects to the given IconMaster, it will recall the profile defined in the **Multiviewer Profile 1 Name** field. Optionally, the operator may choose to recall profiles 2 and 3 at connect time, and may change to these display profiles anytime during operations. If a Profile Name field is blank, no profile operations will be initiated by connecting an RCP to the IconMaster. If no multiviewer profiles are configured on the RCP, but "Always Active" profiles are enabled on the IconMaster MKE-3901 module, the MKE-3901 will continue to maintain an active connection to the "Always Active" multiviewers, providing PiP, UMD, and layout updates as necessary.

Button Configuration Settings

Using the **Button Configuration** dialog box, you can assign specific functions to the configurable clusters and to the transition cluster on the IconMaster main control panel. Depending on whether your control panel is model ICONM-RCP or ICONM-RCP16, you will have different options.

ICONM-RCP

Figure 9-41 Button Configuration Dialog Box - ICONM-RCP

The available functions for each group of buttons are shown in **Table 9-12**.

Note: *Always ensure that channel buttons are allocated left to right, with Channel 1 on the left most button of Cluster 1.*

Table 9-12 Button Clusters, Functions, and Selections

Button Group	Function	Selections
Cluster 1 and Cluster 2	Frame Select	CH 1, CH 2, CH 3, CH 4, CH 5, CH 6, CH 7
	GPO Output control	GPO1, GPO2, GPO3, GPO4, GPO5, GPO6, GPO7, GPO8, GPO9, GPO10, GPO11, GPO12, GPO13
	Quick Selects	QS 1, QS 2, QS 3, QS 4, QS 5, QS 6, QS 7, QS 8
	Fast Reset (cluster 2)	SET, CLEAR, RECALL (appear in Parameter Adjustment Control cluster)
	Clocks & Timers	TIMER, CLOCK
	Fade to Silence	SIL
	Fade to Black	FTB
Transition Cluster	Transition Rates	SLOW, MED, FAST, CUT
	Breakaway	AUDIO, VIDEO
	Automation Hold	HOLD
	Effects	■ FX ■ FXI (effects inhibit automation ignore)
	Fade Types	TAKEFADE, FADETAKE, FADEFADE, CROSSFADE
	Machine Control	CUE, FF, MARK, PLAY, REW, STOP
	None	None

Note: *Changing any of the Transition Cluster functions will require the replacement of the text film on the corresponding IconMaster control panel button. See the IconMaster Operation and Configuration Manual for more information.*

To assign a function to a button, click the graphical button in the dialog box. A pop up window will display a graphical image of the current function assigned to the button, as well as a drop-down menu. The drop-down menu will list the available functions that can be assigned to the selected button. Select the new function from the drop down menu then click **OK** to accept the change, or **Cancel** to exit.

The newly assigned function name will appear on the graphical button. Each function can only be assigned to 1 button at a time. If the drop-down menu does not list the function you want to assign, either the function is not available for that button, or the function is already assigned to another button.

Note: *Frame Select buttons must be assigned starting with the far left button on Cluster 1.*

ICONM-RCP16

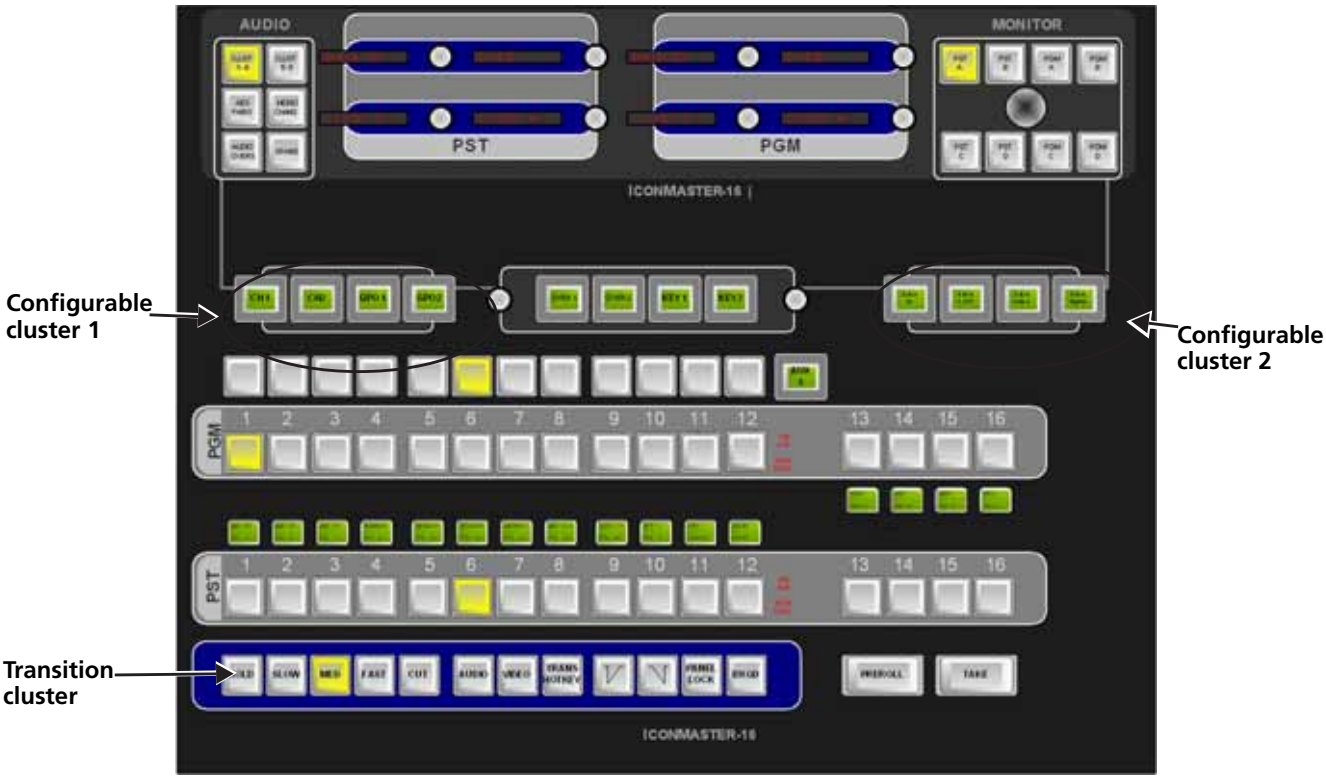


Figure 9-42 Button Configuration Dialog Box - ICONM-RCP16

The available functions for each group of buttons are shown in **Table 9-12**.

Note: *Always ensure that channel buttons are allocated left to right, with Channel 1 on the left most button of Cluster 1.*

Table 9-13 Button Clusters, Functions, and Selections

Button Group	Function	Selections
Cluster 1 and Cluster 2	Frame Select	CH 1, CH 2, CH 3, CH 4, CH 5, CH 6, CH 7
	GPO Output control	GPO1, GPO2, GPO3, GPO4, GPO5, GPO6, GPO7, GPO8, GPO9, GPO10, GPO11, GPO12, GPO13
	Quick Selects	QS 1, QS 2, QS 3, QS 4, QS 5, QS 6, QS 7, QS 8
	Clocks & Timers	TIMER, CLOCK
	Fade to Silence	SIL
	Fade to Black	FTB
	Internal Key (cluster 2)	KEY3 - KEY6

Table 9-13 Button Clusters, Functions, and Selections *(Continued)*

Button Group	Function	Selections
Transition Cluster	Transition Rates	SLOW, MED, FAST, CUT
	Breakaway	AUDIO, VIDEO
	Automation Hold	HOLD
	Effects	■ FX ■ FXI (effects inhibit automation ignore)
	Fade Types	TAKEFADE, FADETAKE, FADEFADE, CROSSFADE
	Machine Control	CUE, FF, MARK, PLAY, REW, STOP
	None	None
	BKGD	
	PANEL-LOCK	
	Trans/Hotkey	Transition Hotkey

Note: *Changing any of the Transition Cluster functions will require the replacement of the text film on the corresponding IconMaster control panel button. See the IconMaster Operation and Configuration Manual for more information.*

To assign a function to a button, click the graphical button in the dialog box. A pop up window will display a graphical image of the current function assigned to the button, as well as a drop-down menu. The drop-down menu will list the available functions that can be assigned to the selected button. Select the new function from the drop down menu then click **OK** to accept the change, or **Cancel** to exit.

The newly assigned function name will appear on the graphical button. Each function can only be assigned to 1 button at a time. If the drop-down menu does not list the function you want to assign, either the function is not available for that button, or the function is already assigned to another button.

Frame Select buttons must be assigned starting with the far left button on Cluster 1.

LTC Configuration

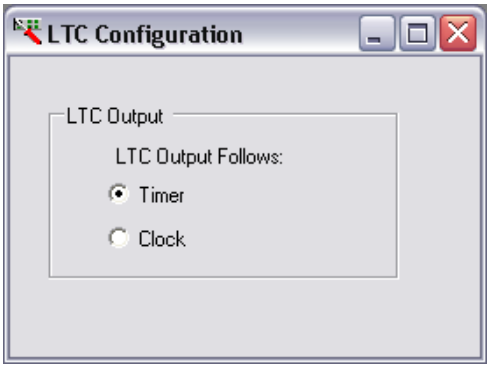


Figure 9-43 LTC Configuration Dialog Box

To configure your LTC output, choose the source you want the output to follow, which can be either **Timer** or **Clock**.

MKE Group

Without additional configuration, IconMaster hardware can connect to up to eight MKE-3901 modules in master/slave configurations. You can add more MKE-3901 modules on the **MKE Group** dialog box.

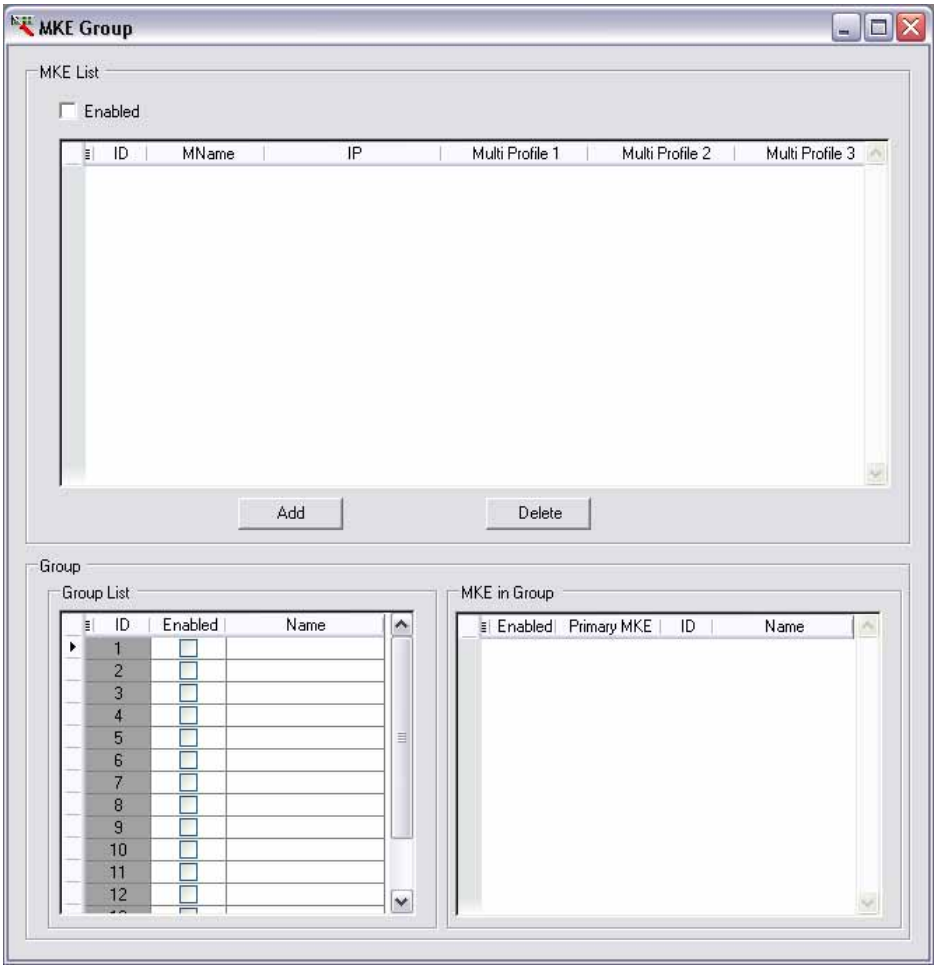


Figure 9-44 MKE Group Dialog Box

Click **Enable** to include the hierarchy of channels and groups in the configuration file when it is sent to the IconMaster Control Panel. If this box is not checked, the switcher will be configured for Channel control only.

To add devices for control, click **Add** to create a new entry in the **MKE List** table, and then complete the fields in that row, as described in **Table 9-14**.

Table 9-14 MKE List Table

Item	Description
ID	An unique identifier for the device
MName	A descriptive identifier for the device

Table 9-14 MKE List Table *(Continued)*

Item	Description
Multi Profile 1	The first Multiviewer profile associated with the device
Multi Profile 2	The second Multiviewer profile associated with the device
Multi Profile 3	The third Multiviewer profile associated with the device

To remove a device from the list, select the row and then click **Delete**.

Each device in the **MKE List** appears in the **MKE in Group** table. To switch between controlled devices, MKEs are divided into groups.

To add devices to a group, follow theses steps.

1. In the **Group List** table, enter a descriptive name for the group in the **Name** field, and then check **Enabled**.
2. In the **MKEs in Group** list, place a check in the **Enabled** column for each device you want in that group.
3. Place a check in the **Primary MKE** beside the device you want to use as the master device in that group.

   Only one device can be the primary device. To assign a different device as the primary device, remove the check beside the device that is already selected before selecting another device.

Note: *If you are configuring an ISCP, the rest of the configuration for IconMaster group control is done within the IconMaster Software Control Panel wizard in CCS Navigator.*

4. If you are configuring a hardware control panel, click **Panel Configuration**.

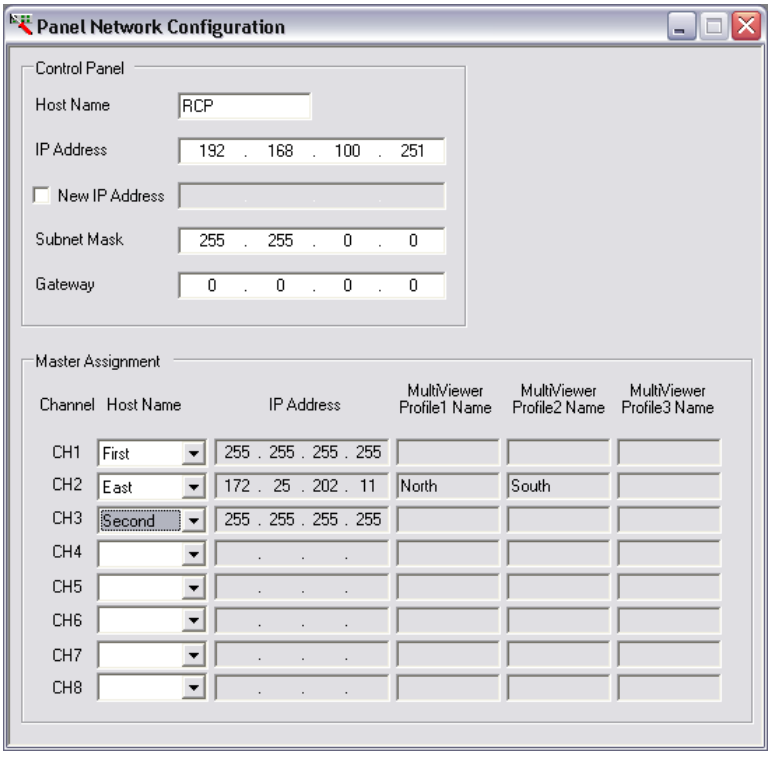


Figure 9-45 Panel Network Configuration in Group Mode

5 In the **Master Assignment** section of the dialog box, under Host Name, choose a group or channel as created on the MKE Group screen from the drop-down menu.

- If the item selected is a channel, the **IP Address** and **Multiviewers** fields update to display information associated with the selected channel or group.
- If the item selected is a group, the **IP Address** is 255.255.255.255.

(For other settings on this screen, see ***Panel Network Configuration Settings*** on page 172) and

6 On the **Button Configuration** screen, assign buttons on Configurable Clusters 1 and 2 to the different groups as required (see ***Button Configuration Settings*** on page 174.

Quick Configuration Quick Reference Chart

This section provides a quick reference chart for the main control panel functions. It shows the control panel clusters (as illustrated in Figure 9-46 on page 180), the functions that fall within each cluster, and the ICU dialog box that allows you to configure that particular function.

ICONM-HCP Control Panel and ISCP

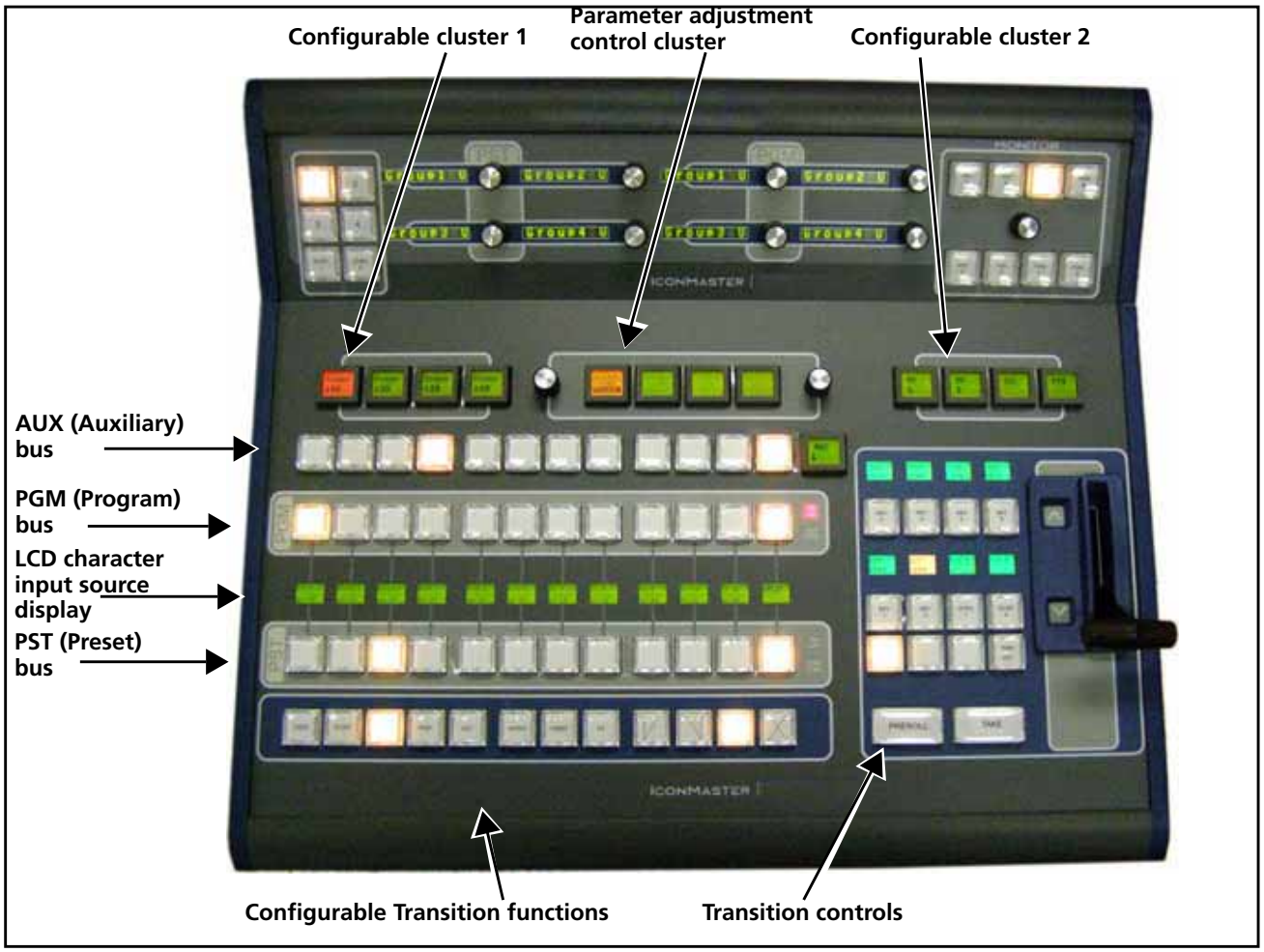


Figure 9-46 Primary Busses on the Main Control Panel

Table 9-15 Busses, Functions, and Configuration Utilities Relationships

Control Panel Item	Functions	Setup Information
Configurable cluster 1 and 2	Fade to Black (FTB)	Button Configuration (page 174)
	Fade to Silence (SIL)	
	CLOCK, TIMER	
	Quick Select (QS1•••QS8)	
	GPO output control (GPO1•••GPO13)	
	Frame select (CH1•••CH8)	
Configurable cluster 2	Fast Reset	System Configuration (page 161)
Parameter adjustment control cluster	Source Select (SRCSEL)	Primary Inputs (page 128)
	Keyer control (KEYER)	Keyer (page 149)
	Transition control (TRANS)	Transition (page 138)
	Audio control (AUDIO)	Audio Configuration (page 129)
	Effects control (FX)	Effects (page 139)
	Quick Selects (Q-SEL)	Quick Selects (page 143)
Aux bus	Preconfigured auxiliary bus preview (AUX)	Aux Bus (page 135)
Program bus)	PGM	Primary Inputs (page 128) System Configuration (page 160)
PST (Preset) bus	PST	Primary Inputs (page 128) System Configuration (page 160)

Table 9-15 Busses, Functions, and Configuration Utilities Relationships *(Continued)*

Control Panel Item	Functions	Setup Information
Configurable transition functions	Hold	Button Configuration (page 174)
	Transition Rate Slow Medium Fast Cut	Transition (page 138) Button Configuration (page 174)
	Breakaway Audio Video	Button Configuration (page 174)
	Transition Effects FX	Effects (page 139) Button Configuration (page 174)
	Transition Type Take-fade Fade-take Fade-fade Cross-fade	Transition (page 138) Button Configuration (page 174)
	Machine Control Type Cue FF Mark Play Rewind Stop	Machine control (page 150) Button Configuration (page 174)
Transition control cluster	External keys Key 1•••Key 2	Keyer (page 149)
	Internal keys Key 3•••Key 6	Keyer (page 149)
	Audio Over Audio-over 1•••Audio-over 2	Audio Configuration (page 129)
	Background (BKGD)	—
	Transition “hot” button	System Configuration (page 160)
	Preroll	Machine Control (page 150)
	Take	—
	Fader bar	—

ICONM-HCP-16 Control Panel

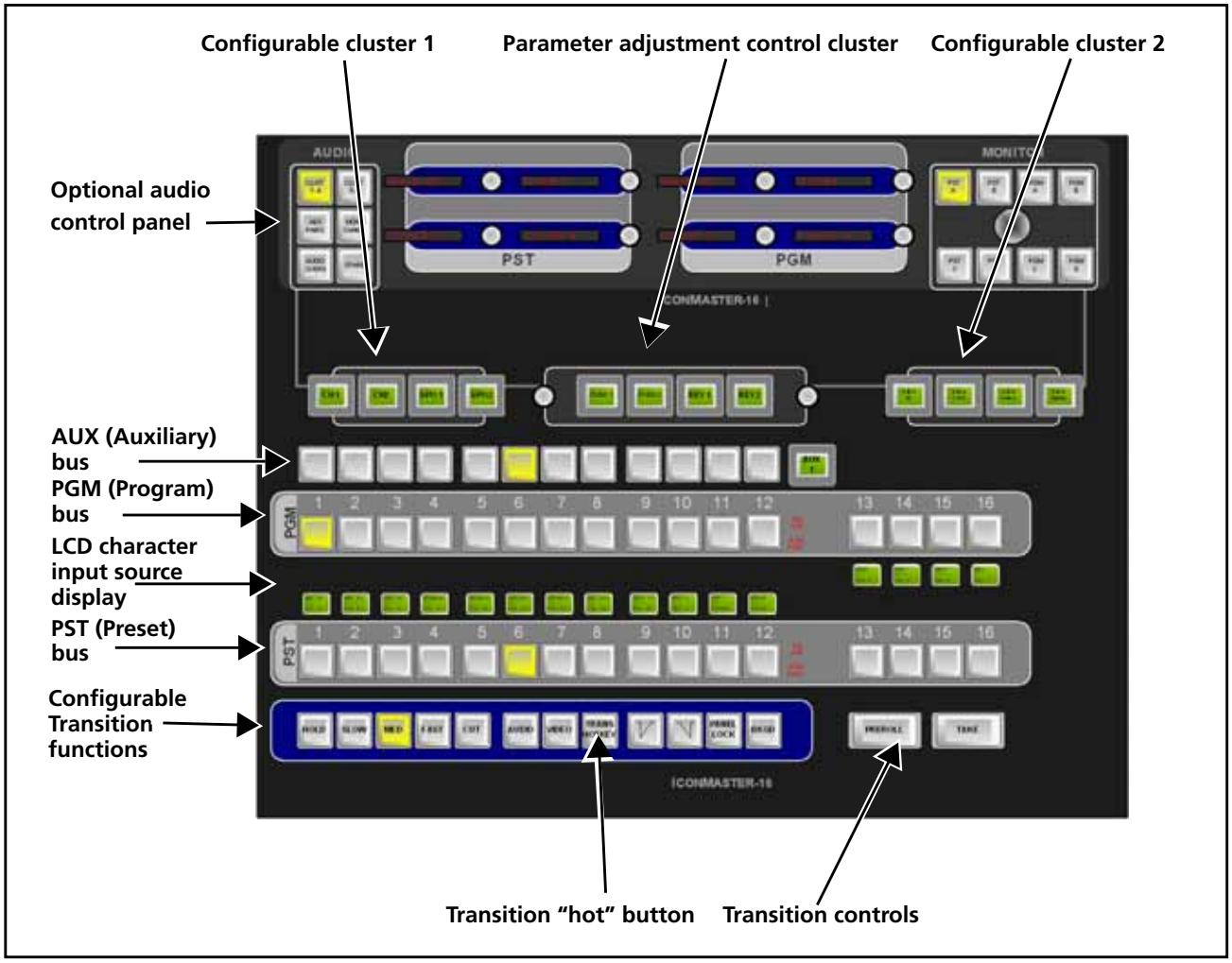


Figure 9-47 Primary Busses on the ICONM-HCP-16 Control Panel

Table 9-16 Busses, Functions, and Configuration Utilities Relationships

Control Panel Item	Functions	Setup Information
Configurable cluster 1 and 2	Fade to Black (FTB)	Button Configuration (page 174)
	Fade to Silence (SIL)	
	CLOCK, TIMER	
	Quick Select (QS1•••QS8)	
	GPO output control (GPO1•••GPO13)	
	Frame select (CH1•••CH8)	
Configurable cluster 2	Internal keys Key 3•••Key 6	Keyer (page 149)
Parameter adjustment control cluster	Source Select (SRCSEL)	Primary Inputs (page 128)
	Keyer control (KEYER)	Keyer (page 149)
	Transition control (TRANS)	Transition (page 138)

Table 9-16 Busses, Functions, and Configuration Utilities Relationships *(Continued)*

Control Panel Item	Functions	Setup Information
	Audio control (AUDIO)	Audio Configuration (page 129)
	Effects control (FX)	Effects (page 139)
	Quick Selects (Q-SEL)	Quick Selects (page 143)
	External keys Key 1•••Key 2	Keyer (page 149)
	Audio Over Audio-over 1•••Audio-over 2	Audio Configuration (page 129)
Aux bus	Preconfigured auxiliary bus preview (AUX)	Aux Bus (page 135)
Program bus)	PGM	Primary Inputs (page 128) System Configuration (page 160)
PST (Preset) bus	PST	Primary Inputs (page 128) System Configuration (page 160)
Configurable transition functions	Hold	Button Configuration (page 174)
	Transition Rate Slow Medium Fast Cut	Transition (page 138) Button Configuration (page 174)
	Breakaway Audio Video	Button Configuration (page 174)
	Transition Effects FX	Effects (page 139) Button Configuration (page 174)
	Transition Type Take-fade Fade-take Fade-fade Cross-fade	Transition (page 138) Button Configuration (page 174)
	Machine Control Type Cue FF Mark Play Rewind Stop	Machine control (page 150) Button Configuration (page 174)
	Background (BKGD)	—
	PANEL-LOCK	
	Transition “hot” button	System Configuration (page 160)
Transition control cluster	Preroll	Machine Control (page 150)
	Take	—

10 Enabling a Router Database for Use with an IconMaster System

Overview

The IconMaster makes use of the Imagine Communications router configuration tools to create a router database for use in the IconMaster's setup and for select operations.

- If you are connecting the IconMaster to a Imagine Communications router for which you already have a Router database, you can use this database as a starting point. Otherwise, use CCS Navigator to create a router database consisting of all sources and destinations which will be used with your IconMaster system.
- Once a router database has been created, you will use the Imagine Communications Navigator software to send this database to the IconMaster. You can also edit the database at any time from within Navigator, and update the IconMaster with a simple button press.
- To configure the IconMaster's source inputs from the router, you will use the IconMaster Configuration Utility (ICU) to assign router sources as IconMaster inputs.
- Finally, if you have configured IconMaster inputs as Dynamic, you will use this database to assign new router sources to the IconMaster inputs.

This chapter provides you with the information you need to perform these procedures.

The discussion that follows is based on the assumption that you have a working knowledge of Routers and the Navigator software application, and have used their other capabilities. If not, please refer to the appropriate manuals to familiarize yourself with their functions.

Setting Up a Router Database

Note: *Databases for several popular* Imagine Communications *router configurations have been provided with your IconMaster system. These can be found in the IconTools software directory (typically* ***C:\Program Files → Harris → IconTools****). You can use these databases, or create your own. See page 120 for a list of these "getting started" database files.*

The steps described below direct you through the process to use for adding a router to a router database. For illustration purposes, the discussion will focus on adding a Panacea 16×4 routing switcher via Polling. For specific information on adding or editing other Imagine Communications routers, please see your CCS Navigator documentation.

If you have set up a router database for your IconMaster primary router already, you do not need to set it up again. Go directly to the section titled ***Defining the IconMaster Configuration*** on page 191.

1 Launch the Navigator application (**Start** → **Programs** → **Navigator**).

2 In Build mode, select **Router** → **Create** → **Routing System** from the **Navigation** pane.

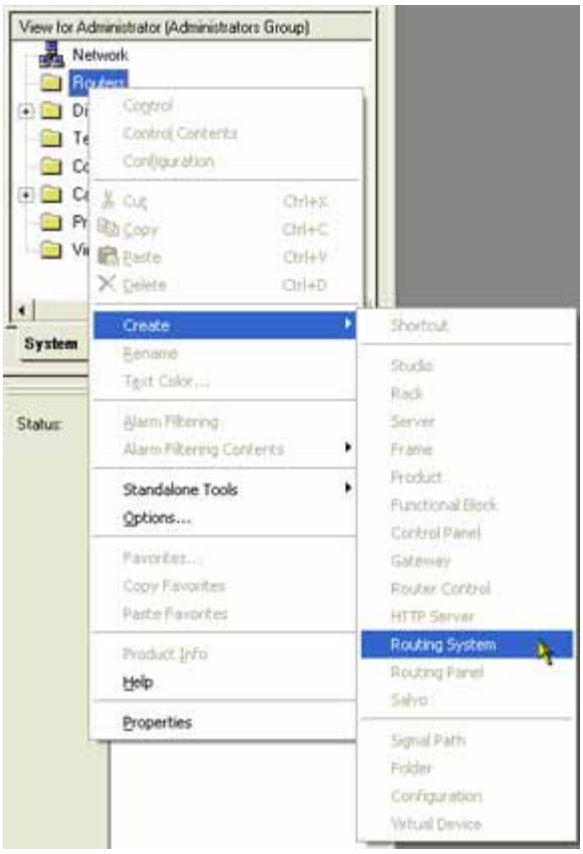


Figure 10-1 Create Routing System Sequence of Steps

A dialog box opens.

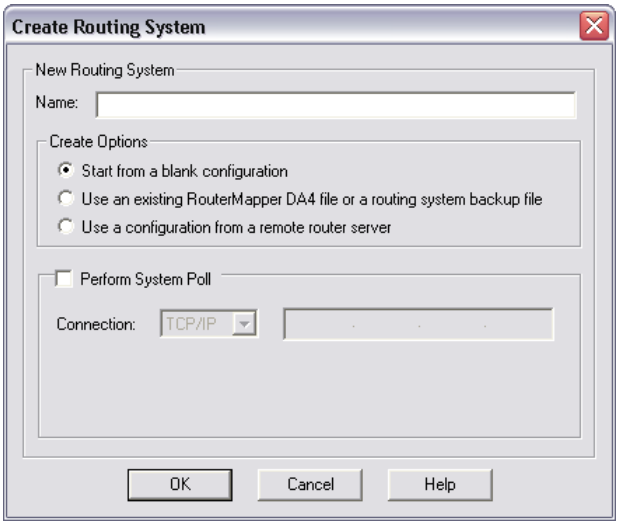


Figure 10-2 Create Routing System Dialog Box

3 Enter a name for the router system, and then check **Start from a blank configuration**.

4 Click on **Perform System Poll** and enter the communication protocol and IP address for the Panacea router, and then click **OK**.

5 In Navigator's Navigation pane, browse to **Routers** > **<name>** > **Routers** and double-click on the **Panacea 0** item.

6 Select the **Router Frame** tab. Panacea module information such as matrix size, type, and module options will be displayed (see **Figure 10-3**). These will vary, depending on your Panacea's matrix type.

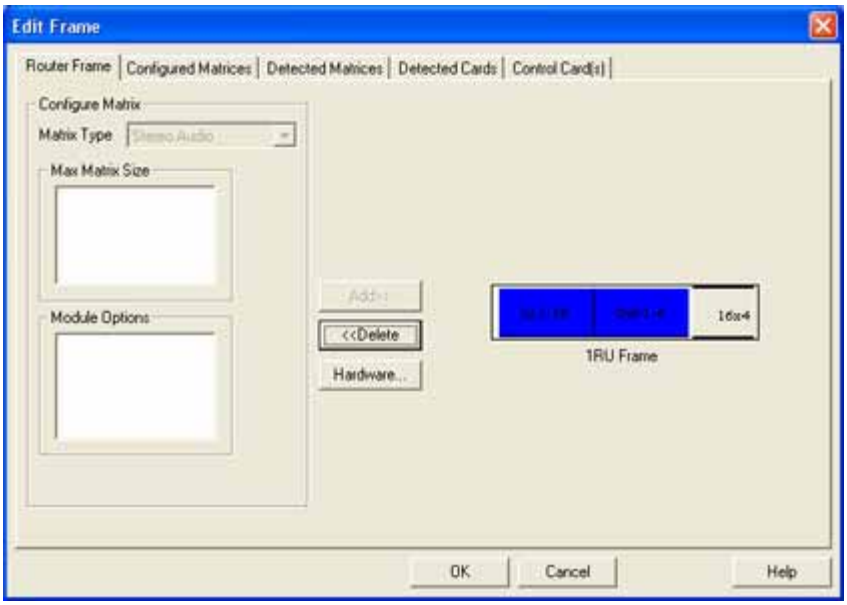


Figure 10-3 Router Frame Tab

7 Select the **Detected Cards** tab.

Panacea module information such as card type, back panel type, and firmware version will be displayed.

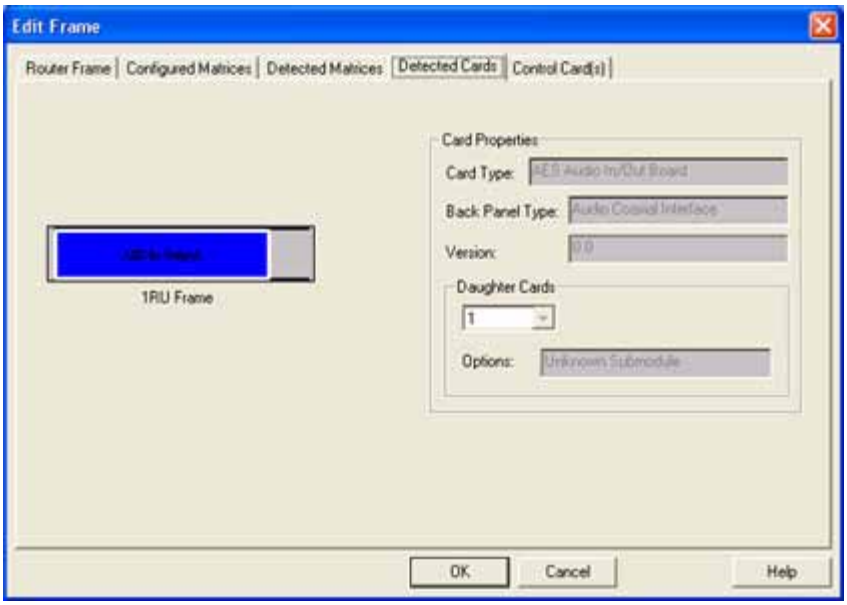


Figure 10-4 Detected Cards Tab

8 Select the **Detected Matrices** tab.

Matrix information should resemble the information shown in **Figure 10-5**.

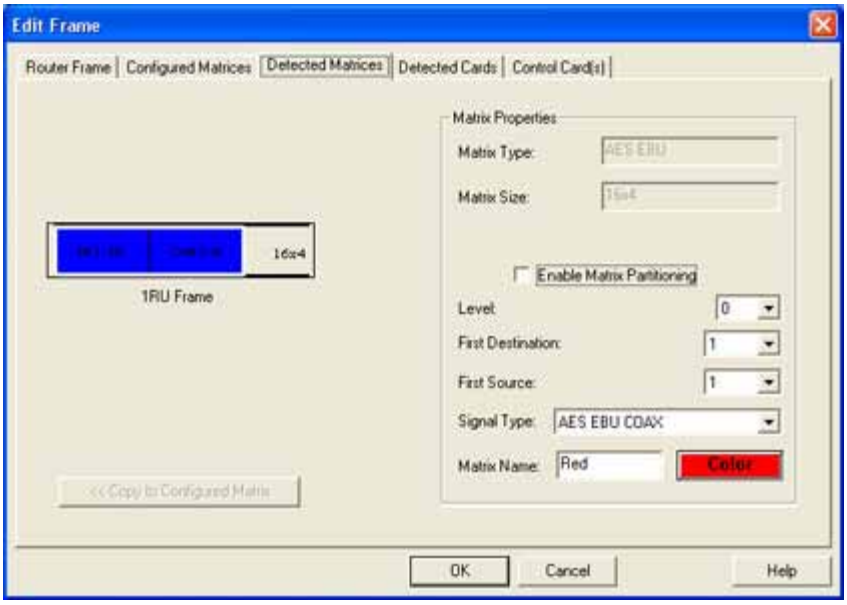


Figure 10-5 Detected Matrices Tab

9 Click **OK** to close the dialog box.

When the database is first created, each logical source will be assigned a generic name such as "Input 1," "Input 2," etc. Each logical source can be renamed to uniquely identify the source. A source name can contain any 8 characters. To rename a source:

a In the Navigation pane, select **Routers** > **<name>** > **Control Views** and double-click on the **<Name>** item.

The **Edit Logical Database** window will appear.

b Select the **Sources** tab.

c Highlight the text in the **Name** box.

Figure 10-6 Edit Logical Database

d Over-type it with the new name.

e Make sure that you follow the category/indexing format as described below.

When a source name is entered in the database, the name automatically creates a category. All characters to the left of last space in the source name become the category (the space will be included in the category name). All characters to the right of the space will become the index. If the source name does NOT include a space, the entire name will be used to create the category name. This may limit the number of sources that can be accessed from the panel. Use spaces appropriately when naming sources. If any character after the space is not a valid index character (valid characters are any combination of numbers, 0-9), the entire name will be used to create the category name.

- If a logical source is named "VTR 1," the category is named "VTR."
- If "VTR1" is typed without a space, the category "VTR1" will be created.
- If "VTR 10Z" is typed, a category named "VTR 10Z" will be created (not a category "VTR" and an index "10Z").

10 If you made changes on any of the router tabs, the message "Needs Download" will appear next to the router name listed on the Navigation pane. Highlight the router and click **Download** to download the revised settings to the router.

Defining the IconMaster Configuration

1 At the **View for Administrators** list, locate the **Catalog** selection. If necessary, expand the selection to view the sub-entries.

2 Under the IconMaster sub-entry, locate the **IconMaster (MKE)** entry. Drag the entry up to the **Configuration** selection, and then drop it into the **Configuration** selection.

3 Click **Yes** to confirm the operation.

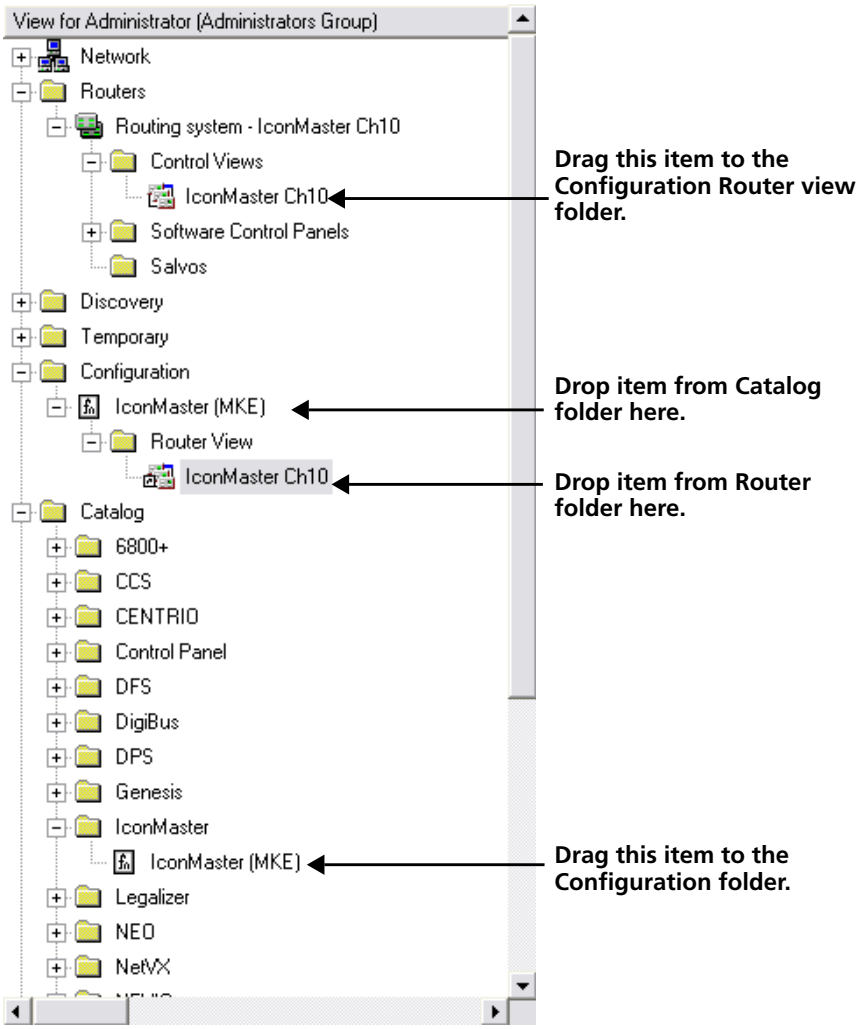


Figure 10-7 Drag-and-Drop **IconMaster (MKE)** Entry

The following dialog box appears:

Figure 10-8 IconMaster (MKE) IP Dialog Box

4. Enter the IP address of the MKE-3901 module, and then click **OK**.
5. If necessary, expand the **Configuration** selection to view the sub-entries. You will now see an entry for **IconMaster (MKE)**, with a **Router View** sub-entry below it.
6. Drag the database entry under the Control View you created in step 6 on page 189 down to the **Configuration** selection, and then drop it into the IconMaster's **Router View** sub-entry.
7. Click **Yes** to confirm the operation.

   The **MKE Configuration** dialog box appears.

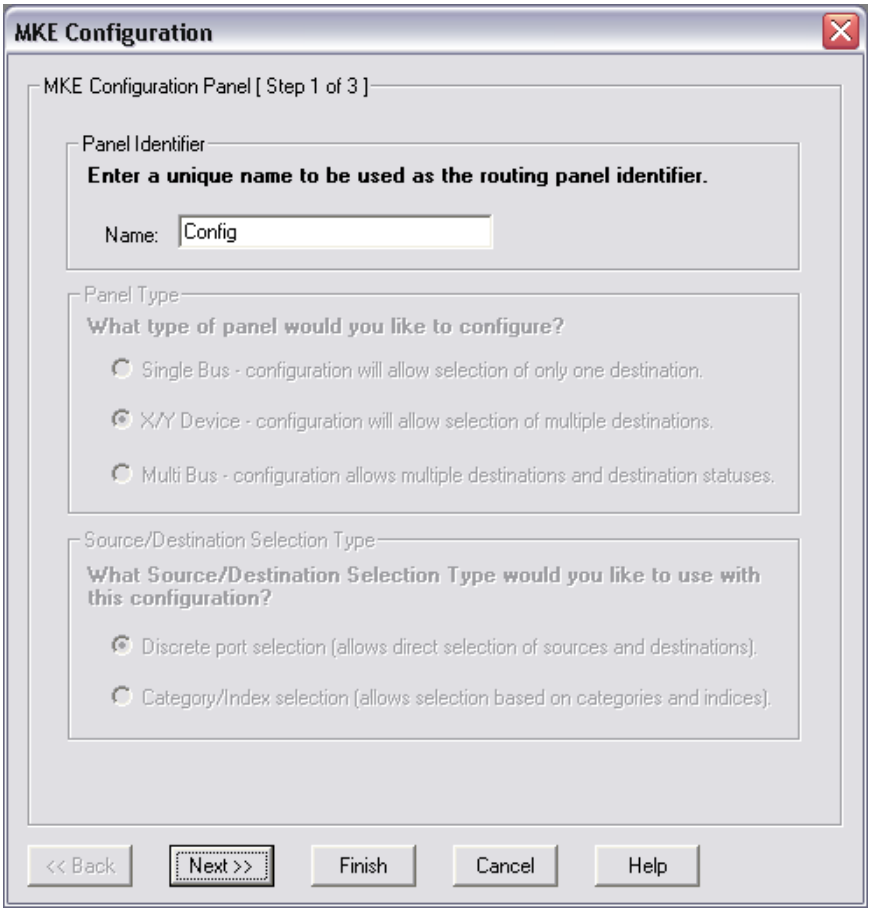

MKE Configuration
MKE Configuration Panel [Step 1 of 3]
Panel Identifier
Enter a unique name to be used as the routing panel identifier.
Name:
Config
Panel Type
What type of panel would you like to configure?
Single Bus - configuration will allow selection of only one destination.
X/Y Device - configuration will allow selection of multiple destinations.
Multi Bus - configuration allows multiple destinations and destination statuses.
Source/Destination Selection Type
What Source/Destination Selection Type would you like to use with this configuration?
Discrete port selection (allows direct selection of sources and destinations).
Category/Index selection (allows selection based on categories and indices).
<< Back
Next >>
Finish
Cancel
Help

Figure 10-9 MKE Configuration Wizard Screen 1 of 3

8 On the first screen of the configuration wizard, enter a name for the configuration, and then click **Next**.

You cannot make any other changes on this screen.

9 On the second screen of the configuration wizard, you can select the sources that you want to control. All of the sources that are established by the Router System Control View are listed under **Available sources**. From this list, select the sources you want to add, and then click the **>** button (or, if you want to add all of the sources listed, click the >> button).

If you want to remove a source, select the one you want to remove, and then click the < button, or click the << button to remove all sources.

You can filter the **Available sources** list by entering a keyword in the **Filter** box.

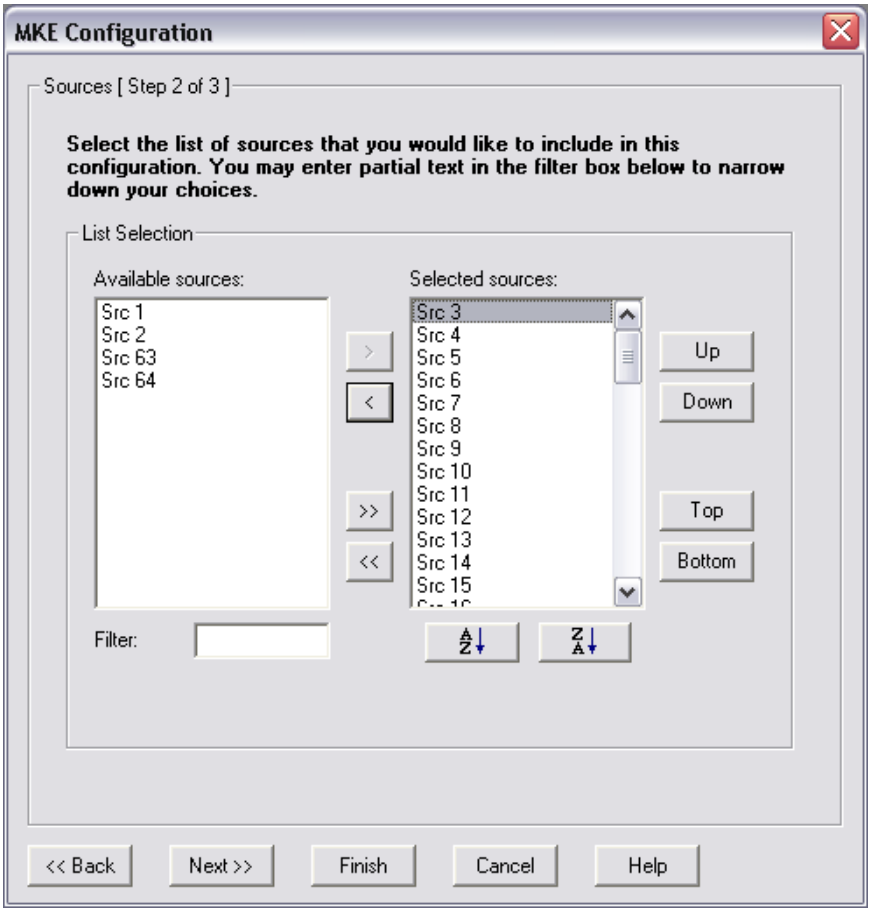


Figure 10-10 MKE Configuration Wizard Screen 2 of 3

Selected sources now lists the sources that you can control.

To determine the order in which the sources appear, use the following buttons:

- **Up**—Moves the selected items up one position in the list
- **Down**—Moves the selected items down one position in the list
- **Top**—Moves the selected items to the top of the list
- **Bottom**—Moves the selected items to the bottom of the list
- **A–Z**—Organizes all items in the list by alphanumeric order
- **Z–A—**Organizes all items in the list by reverse alphanumeric order

When you have completed organizing your **Selected sources** list, click **Next**.

10 On the third screen of the configuration wizard, select the destinations that you want to control, using the same tools and methods you used to add and remove sources.

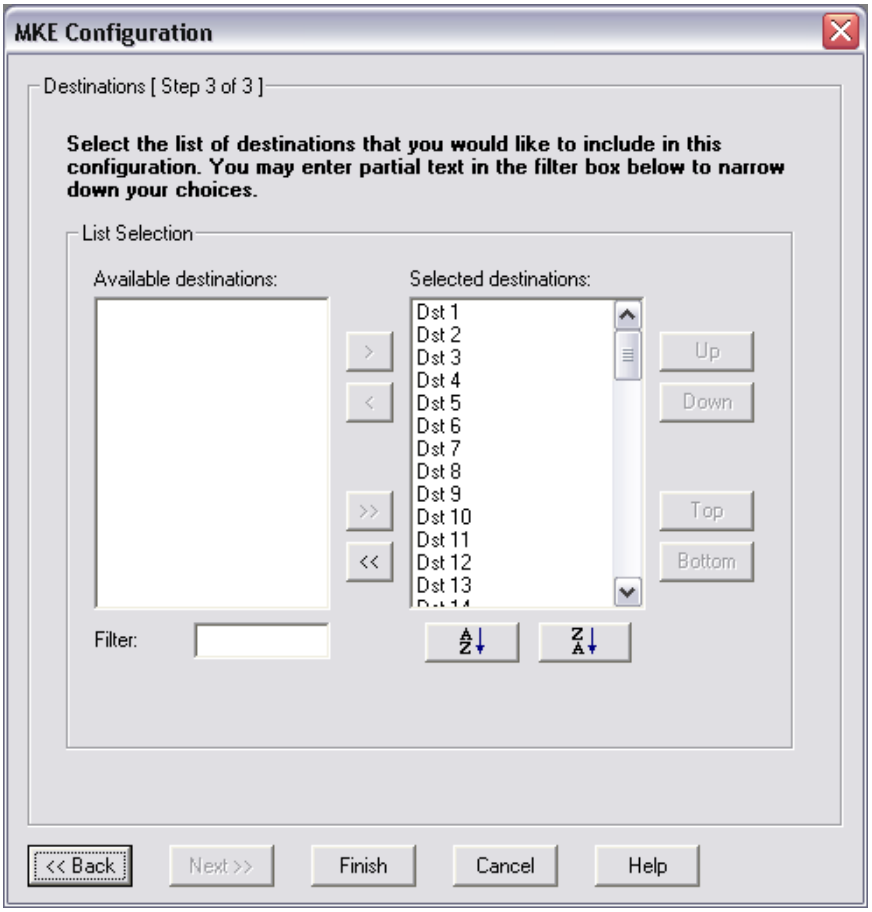


Figure 10-11 MKE Configuration Wizard Screen 3 of 3

11 Click **Finish**.

12 Back in the Navigation pane, click the IconMaster (MKE) device in the **Configuration** folder.

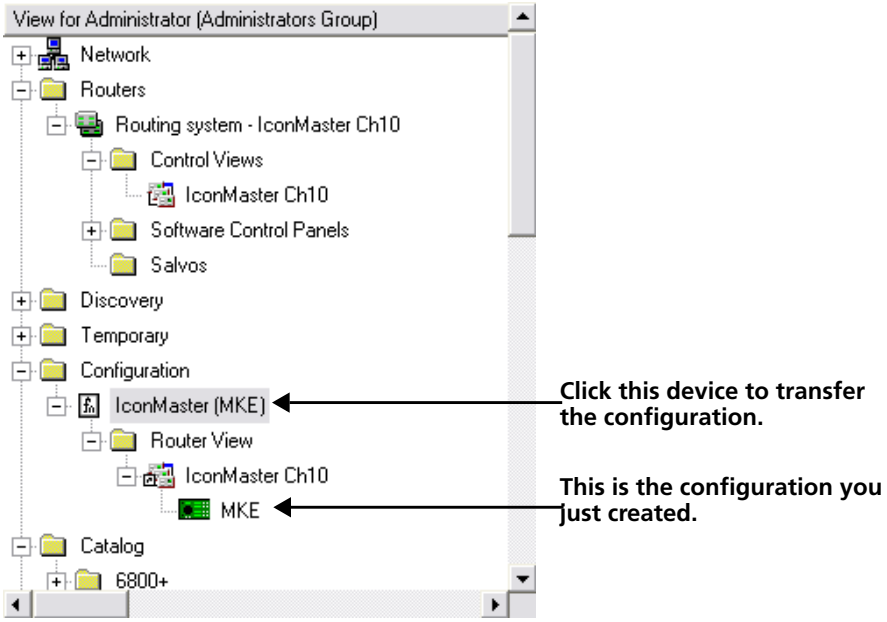


Figure 10-12 Navigation Pane with IconMaster Configuration

The **Configuration** dialog box opens.

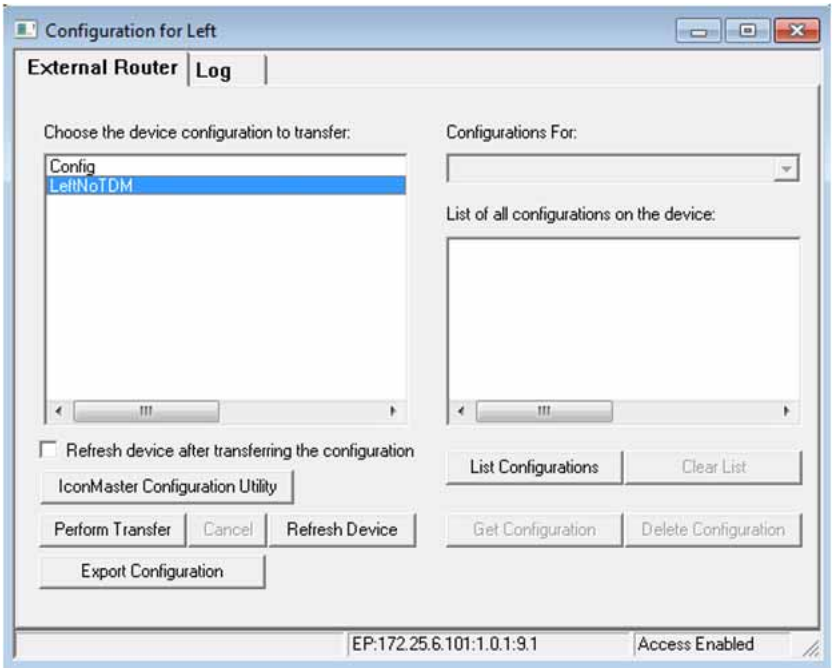


Figure 10-13 Transferring a Configuration to the MKE-3901 Module

13 Highlight the device configuration you want to transfer, and do either of the following:

- Click **Perform Transfer** to send the router database to the IconMaster. See ***Performing a Database Transfer*** on page 196.

  This option is suitable for smaller router databases.
- Click **Export Configuration** to save the router database locally before exporting the database to ICU for transfer. See ***Exporting a Configuration and Importing in ICU*** on page 197.

  This option is recommended for very large router databases.

Performing a Database Transfer

After completing the steps in ***Defining the IconMaster Configuration*** on page 191, if you have a smaller router database, you can transfer the router database directly to the IconMaster.

1 On the **Configuration** dialog box within Navigator, click **Perform Transfer.**

2 Click **Yes** to confirm the transfer.

3 After the transfer is complete, click **Refresh Device**, and then click **List Configuration**.

The XML files will be listed on the right side under **List of All Configurations on the Device**. Confirm that the config.xml and routerdb.xml files are listed.

4 Click **IconMaster Configuration Utility**.

ICU starts and loads the frame configuration for the selected device.

5 In ICU, click **Router Configuration**.

6 Choose either **Serial port** or **Ethernet** depending on your routing system, and enter the IP address if required.

(For Platinum routers only) Under **External Router**, select **Ethernet**, and then enter the IP address for the PT-RES module. The **Acquire Router Database** dialog box should open, with **Download Database from IconMaster** selected. (If this dialog box does not appear, check **Using Routing Database**.)

7 Click **OK**.

The routing database is now fully transferred to the IconMaster hardware. To confirm that it is mapped correctly, check that the router levels match the database configurations on the **Primary Inputs** dialog box in ICU.

Exporting a Configuration and Importing in ICU

After completing the steps in ***Defining the IconMaster Configuration*** on page 191, if you have a very large router database, you should export the database to ICU. Follow these steps:

1 On the **Configuration** dialog box within Navigator, click **Export Configuration**.

2 Click **Yes** to confirm the transfer.

3 Click **IconMaster Configuration Utility**.

ICU starts and loads the frame configuration for the selected device.

4 Do either of the following:

- If the ICU configuration is already set to use a router database (see ***Changing or Editing the Router Database*** on page 205), then in ICU go to **File** > **Import Router Database**, and select the file that was exported from Navigator in Steps 1 and 2 above.
- If the ICU configuration is not already set up to use a routing database:
  - **i.** Click **Router Configuration**, and then choose either **Serial port** or **Ethernet** depending on your routing system.
  - **ii.** Enter the IP address if required.

    Panacea routers normally use serial port. For Platinum or IP3 routers under **External Router**, select **Ethernet**, and then enter the IP address for the PT-RES or PX-RES module.
  - **iii.** Select Using Routing Database and Sorted.

    The **Acquire Router Database** dialog box should open, with **Download Database from IconMaster** selected.
  - **iv.** Change this to Import a Database and then click OK.

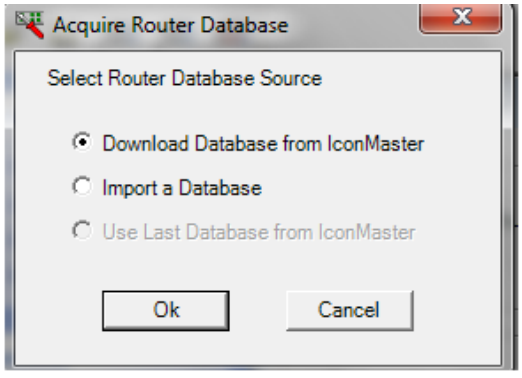


Figure 10-14 Acquire Router Database Dialog Box

v. Select the file that was exported from Navigator in steps 1 and 2 above.

The routing database is now transferred to ICU.

5 Check Primary Inputs and Aux Inputs to ensure that sources and destinations are mapped correctly and then transfer the configuration to the IconMaster.The routing database is now fully transferred to the IconMaster hardware.

Preparing the IconMaster Configuration

1 Launch the IconMaster Configuration Utility (ICU) by selecting the button labeled **Launch IconMaster Config Utility** or from the **Start** menu (**Start** → **Programs** → **Harris** → **IconTools** → **IconMaster** → **IconMaster Configuration Utility**).

2 If you have already created an IconMaster configuration, select **File** → **Open**, and then select your configuration file. Otherwise, select **File** → **New**, and then select the type of configuration to create (in this case, select **IconMaster Frame (Channel) Configuration**.)

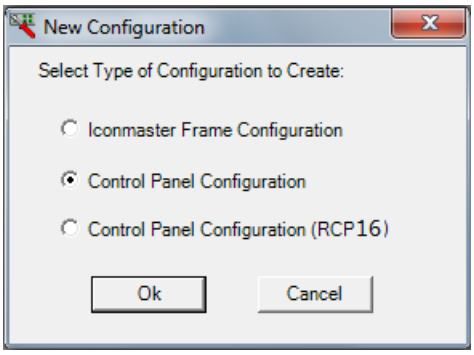


Figure 10-15 New Configuration Window

3 Click **OK**.

The main ICU window appears.

4 Under the **System Config** category on the left side of the ICU window, select **Genlock and Standard**.

From the **Operation Standard** drop-down list box select the operating standard you want to use.

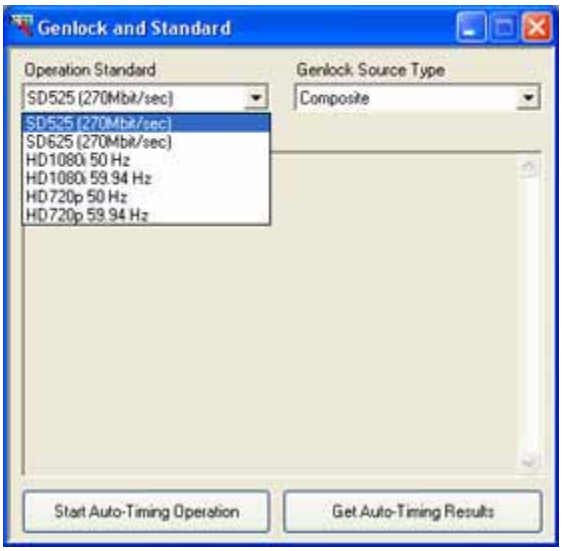


Figure 10-16 Selecting Operation Standard

5 Under the **System Config** category on the left side of the ICU window, select **Network**. Here you will identify the IconMaster's MKE-3901 module's Ethernet settings.

- Enter a new name into the **IconMaster Channel Name** text box.
- Enter the IP address, subnet mask, and (optionally) the network gateway settings for the IconMaster's MKE-3901 module. When all entries are complete, close the **Network** window.

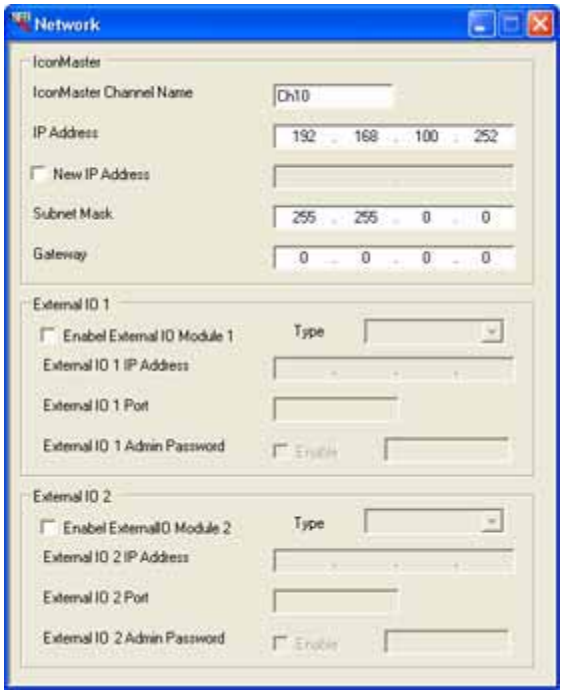


Figure 10-17 IconMaster MKE-3901 Network Settings

A few moments after entering the IconMaster IP address on the network page, the flashing OFFLINE will change to ONLINE, to indicate that the IconMaster Configuration Utility has successfully detected and connected with the IconMaster MKE-3901 module.

6 Under the **System Config** category on the left side of the ICU window, select **Router Configuration**. The **Router Configuration** window appears. Make the following selections:

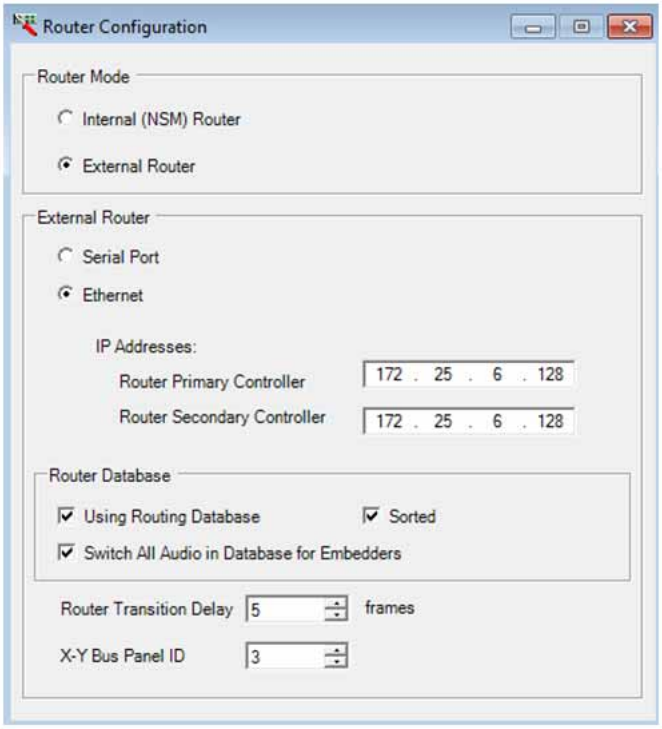


Figure 10-18 Selecting Router Mode and Router Database Characteristics

a Under **Router Mode**, click the **External Router** radio button.

b Under **Router Database**, click the **Using Router Database** and **Sorted** check boxes.

The **Acquire Router Database** window appears.

Figure 10-19 Acquire Router Database Window

c Select the database source, and then click **OK**.

- Use **Download Database from IconMaster** if you want to use the database that is currently active on the IconMaster.

  If you choose this option, click **Yes** to confirm that you want to download the XML file.

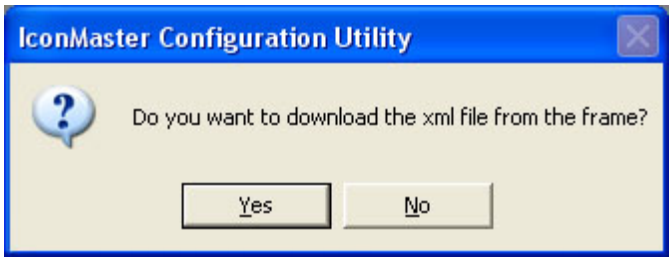


Figure 10-20 Download Confirmation Window

- Use **Import a Database** to import the router database from Navigator if your router database is very large.

  If you choose this option, after clicking **OK**, navigate to the location where the Navigator routing database was saved and select **Open** (see ***Exporting a Configuration and Importing in ICU*** on page 197).
- Select **Use Last Database from IconMaster** if you want to use the database you used before.

  The download starts.

d Once the download is completed, click **OK** to close the **Routing Database Successfully Downloaded** message.

e Click **OK** in the **You must save your configuration file before proceeding** window to save the database.

Enter a location and file name for your configuration file in the **Save As** window.

If you are using a Platinum router, select "5" from the **Router Transition Delay** box for a 5-frame router transition delay. If not, use the default setting of "1".

At the bottom left of the ICU window, you will see displayed the frame name, the operating standard, and the IP address you just entered. You will also see the word Connecting.

Assigning Router Inputs

1 Under the **Input/Output** category on the left side of the ICU window, click **Primary Input**.

The Primary Input window will appear.

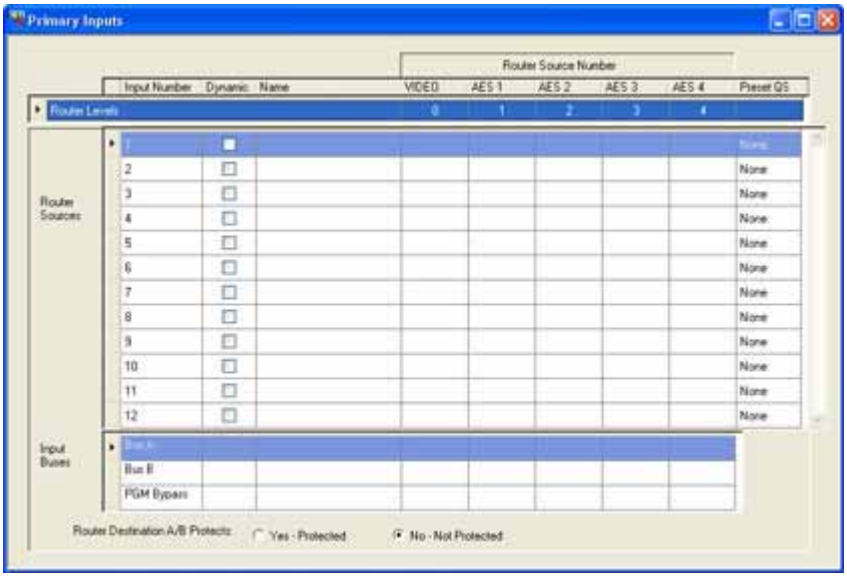


Figure 10-21 Primary Input Window

Under **Router Source Number**, the level numbers displayed should match the levels set in your database. In the unlikely event that they do not, you can change the level number in the drop-down list boxes to match the levels set for your router. Set any unused level to **Unused**. Note that the **Video** column must have a router level assigned.

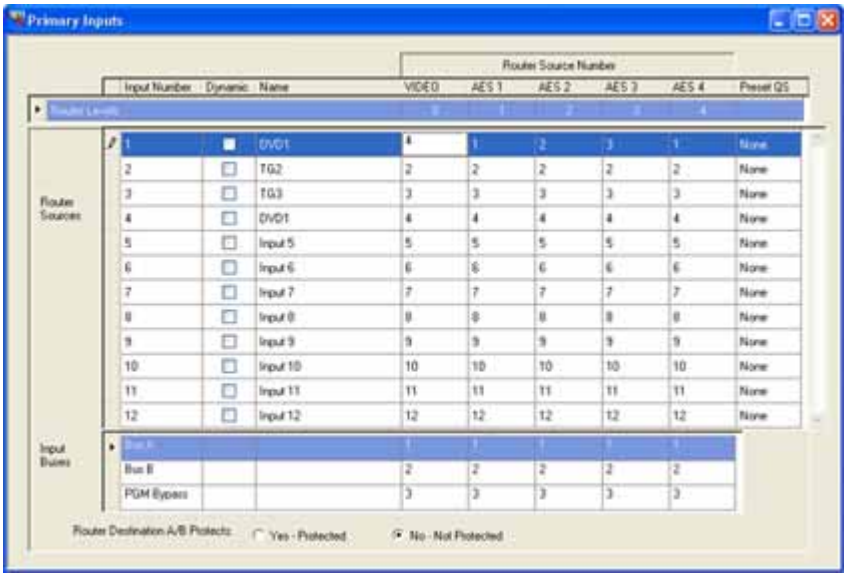


Figure 10-22 Changing Router Levels

2 For sources that will be dynamic, click the check box (es) next to the appropriate source(s).

3 Select the desired router source(s), and then select name of the router source from the **Name** drop-down list box.

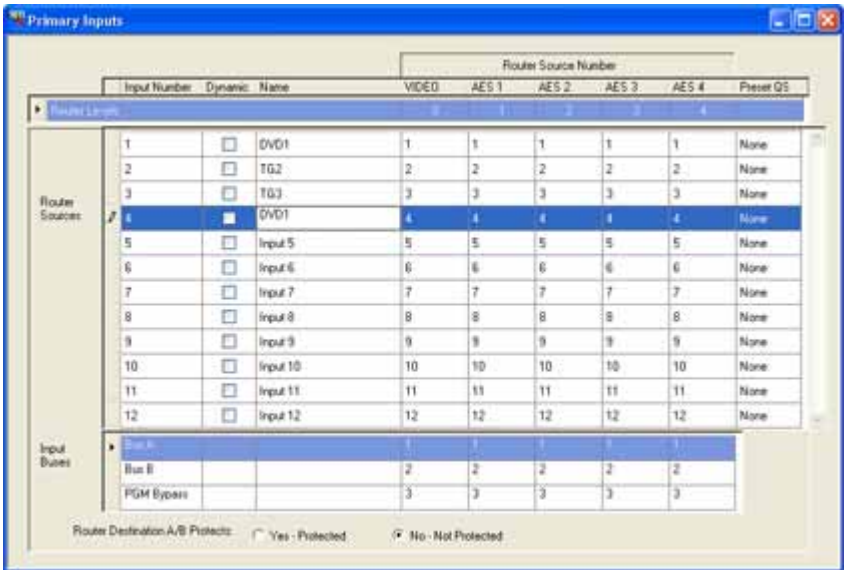


Figure 10-23 Changing Router Source Names

4 For the Input Buses: Bus A and B, select the **Name** from the drop-down list box of the router destinations which are connected to the IconMaster's A and B inputs.

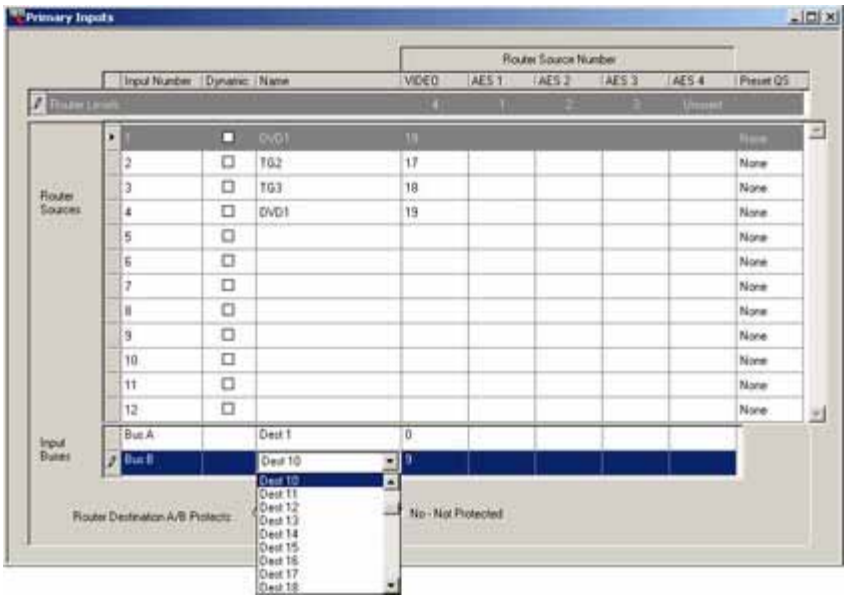


Figure 10-24 Selecting Bus A and Bus B Inputs

5 Under the **Input/Output** category on the left side of the ICU window, click **Aux Bus**. The Aux Bus window will appear.

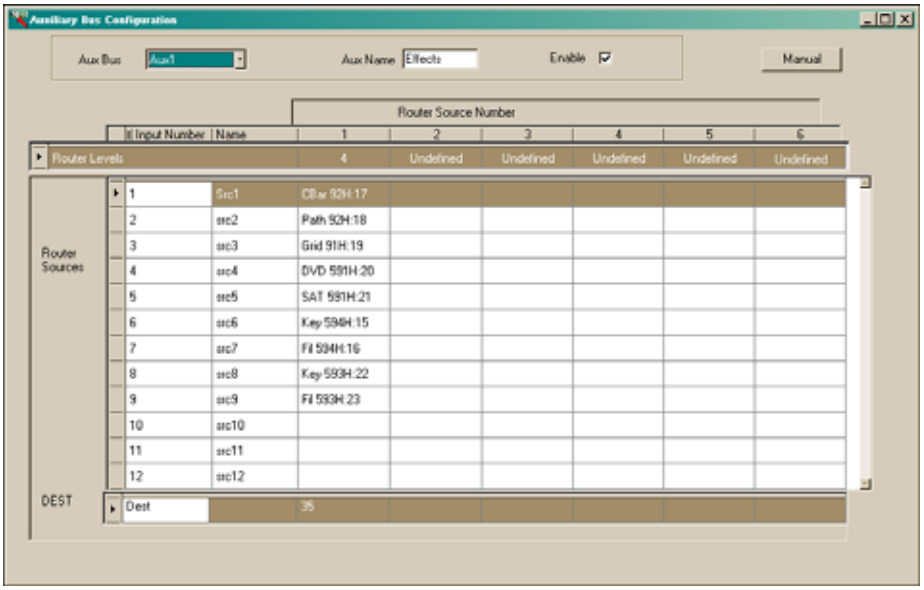


Figure 10-25 Setting up Router Database Aux Operations

Note: *When ICU is configured for Router Database mode, the Aux bus presentation changes to allow selections from the router database for configuration of database sources.*

If a database source is missing for a particular level/crosspoint, click on the desired cell within the Aux bus page, and then click ***Manual****. You can then override or assign a desired crosspoint data value.*

6 From the Aux Bus menu in the top left of the dialog box, choose each bus, and then check or uncheck **Enable**.

Disabled Aux buses will not appear in the RCP, and will appear grayed out on the ISCP.

7 For enabled buses, type router sources, where they differ from those displayed on the screen.

8 Select **File** → **Save As**, and then enter a name for the configuration.

9 To send the configuration to the IconMaster, click the **Send CFG to Frame** button.

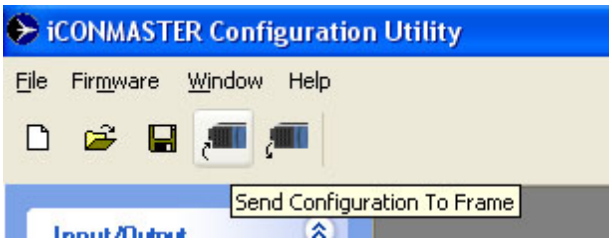


Figure 10-26 Sending Configurations to a Frame

At this point, you should have an operational IconMaster, which has inputs assigned from the router.

Changing or Editing the Router Database

If you need to add, delete or change an entry for the IconMaster's router, you will want to update the router database. This procedure describes the workflow to perform this change and update.

1 From within the Navigator application, select the IconMaster router database entry under the **Routers** → **Control Views** tree.

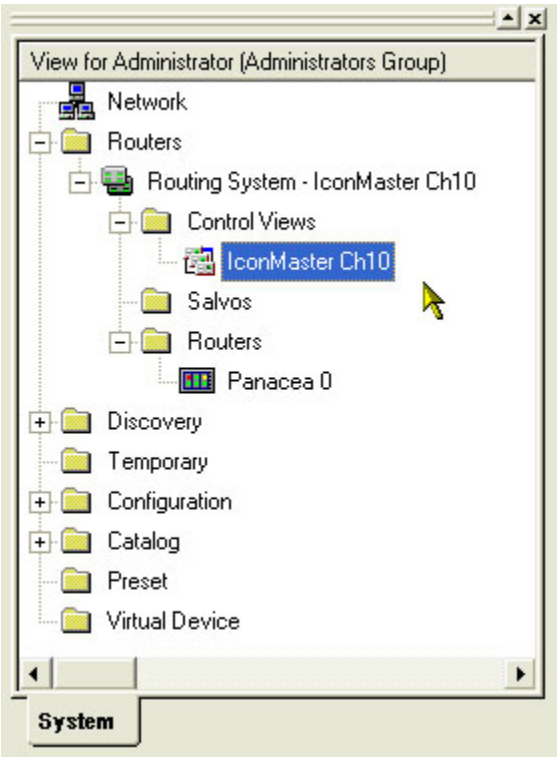


Figure 10-27 Router Database Entry Location

2 Double-click the IconMaster's router database entry to open the database editor.

You can edit, add, delete, or change entries as needed. If you adjust the logical system size of your router configuration to be specific to IconMaster, all source names, destination names, and router sources will have to be re-entered into the new database.

3 To update the database on your IconMaster, double-click the **IconMaster (MKE)** sub-entry under the **Configuration** selection.

The **Configuration for IconMaster (MKE)** window appears.

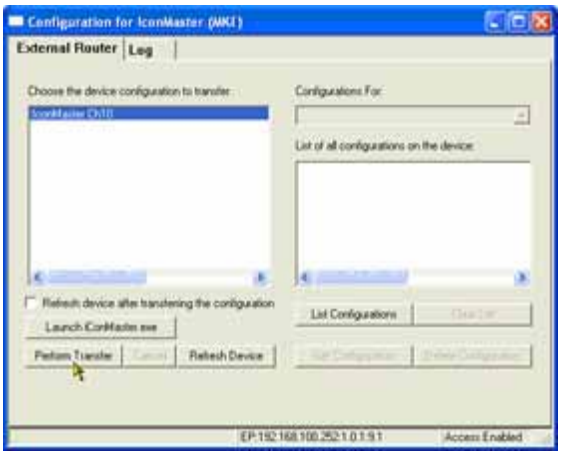


Figure 10-28 Configuration for IconMaster (MKE) Window

4. Highlight the device configuration you want to transfer, and then click **Perform Transfer** to send the router database to the IconMaster.
5. Click **Yes** to confirm the transfer.
6. After the transfer is complete, click **Refresh Device**.

   Any router database changes you made will become active on the IconMaster within a few seconds. If you wish to change the assignment of router sources to IconMaster inputs, use the IconMaster Configuration Utility to make these changes.

11 Troubleshooting

IconMaster Troubleshooting Checklist

This checklist should be used to ensure that the basic system is configured and wired properly. It is important to follow though these in order; the logic here is important to diagnose configuration issues.

Breakout Module

Ensure the correct cable(s) are used for connecting to the IconMaster. The audio cables and the video cable look very similar. If the wrong cable is used, the MKE-3901 module may not even power up properly. MKE breakout cable is part # 165-000242-00 the MKA breakout is part # 165-000242-00.

Communication

1. Verify correct IP addressing on MKE-3901, MGI-3903, RCP, and PC.
2. Verify all components connected to a 10/100baseT switch.
3. Check that the control panel has been configured to control the MKE-3901 IP address.
4. Ethernet port 1 on the control panel is not used. Port 2 must be connected.

Video Signals

1. Verify correct firmware version is loaded into both the MKE-3901 and MGI-3903 modules. The version can be viewed from the card edge controls of each module. The letters SD or HD will be at the end of the version tag. Both versions of firmware are available from our Web site.
2. Verify the correct genlock type and operating standard is selected in the Genlock configuration of the IconMaster Configuration Utility (ICU). Once set, the file must be saved and uploaded to the frame. If the operating standard does not match with the firmware version in the module you will receive an error. Starting with v1.2 the software prompts you to load the firmware.
3. Verify genlock is present at the MKE-3901 module. There is a lock LED on the far left of the board that indicates valid signal presence.
4. Connect two video sources to the bus A and bus B inputs of the MKE-3901. By selecting different sources on the program bus you should see the program output toggle between the two sources.

Video Output is not Valid

- Bypass the IconMaster and ensure the input source feeding the BusA and BusB signals appear on your downstream monitor by connecting a BNC "barrel" of the cable feeding IconMaster BusA/B input and the PST or PGM output monitor.
- Verify the signals feeding into IconMaster are of the correct video standard, as set up in the ICU configuration.

Internal Router Control (NEO NSM)

1. Verify correct settings on the NSM modules.
   - The "first" NSM, which is used for inputs 1-5, should be set to Level 0, SrcOffset 1, DestOffset 0.
   - The "second" NSM, which is used for inputs 6-12, should be set to XY Level 1, SrcOffset 1, DestOffset 0.
2. Verify that external router control is not selected in the System Config section of the ICU. Some versions may have a check box to select internal routing, otherwise deselect external. Any changes need to be uploaded to the frame.
3. Verify that LockStat 1 and LockStat 2 parameters on the NSM module are set to Free.

External Router Control (Panacea, Platinum, EDGE)

1. Verify jumpers on MKE-3901 module are set for RS-232 or RS-422 control.
2. Verify jumper pack on breakout module is set for RS-232 or RS-422.
3. Verify cable pinout is correct for RS-232 or RS-422 connection to the router.
4. Verify the router serial port is correctly set for RS-232 or RS-422.
5. Verify that the router serial port is set to 38400 baud.
6. Verify that the serial cable to the router is connected to port E on the breakout module.
7. Verify that the level, source, and destination setup in the System Config/External Router Configuration of the ICU and wiring match.

Audio Overs

When using the breakout module the audio over jumpers on the MKE-3901 module must be set to balanced, even if unbalanced AES inputs are used.

Software/ Firmware

Verify the firmware versions of all IconMaster components: MKE-3901, MGI-390x, RCP, ICU. All software and firmware components must be from the same release. If one component is upgraded, the entire system must be upgraded.

Cannot PING the IconMaster Components From a Computer

- Check IP addresses of IconMaster component and that computer
- Check network mask settings
- Check computer for firewalls or blocked ports
- Ensure you can PING any other network devices from that computer
- Check the lights on the Ethernet router(s) to ensure all devices are connected and operational

RCP Cannot Connect To An IconMaster Channel (MKE)

If the RCP's channel button is RED, then the RCP has a valid Ethernet connection to the MKE channel, and is receiving regular heartbeat (keepalive) messages.

If you press a GREEN channel button, and it does not turn (and remain) RED, there are network connectivity problems preventing the RCP and the MKE to connect. Check IP addresses, router connections, and equipment configuration settings.

Cannot Communicate to the Primary Router

If IconMaster cannot communicate to the primary router, the primary source buttons will FLASH, indicating a router communications error.

Note: *Some systems may indicate a router communications error (by flashing) only at powerup. Pressing any PST source button will clear this indication. This is normal, and does not indicate an error.*

- Ensure the BKGD button on the RCP panel is selected and illuminated. If not selected, IconMaster will not change the background source on the PST bus. THIS IS THE MOST COMMON MISUNDERSTANDING.
- If set up for serial router communications:
- Verify the correct serial port is set up (ICU, System Config > Router Configuration)
- Verify RS232 -vs- RS422 settings (jumper on MKE -3901 (see ***Changing MKE-3901 Front Module Jumpers Setting*** on page 20) and jumper pack on breakout module (see ***DB-9 Connectors*** on page 36)
- Verify correct serial port wiring is used (see ***DB-9 Connectors*** on page 36)

If using an SPT to connect to the router, verify the DIP switch settings on the SPT for baud rate, protocol select, and XY terminations. An internal jumper pack must also be set correctly for either RS-232 or RS-422.

If set up for Ethernet connection, verify the correct router IP address information (ICU, System Config ' Router Configuration)

Using ICU, verify the router setup on the System Config > Router Configuration and the Input/Output > Primary Input screen.

Verify the correct router level and destinations are set up (ICU, Input/Output ' Primary Input).

Monitor the router BusA and BusB destinations using a router control panel. Try selecting different sources to these router outputs: do these changes propogate through to the IconMaster outputs?

Cannot Control the Internal (Logo) Keyers

Internal logo keyers are only available for IconMaster systems with MGI-390x modules. IconMaster LITE systems do not include this module, and will not support internal logo keyer operations.

- If the Internal Keyer buttons are dark and do not display any text, the IconMaster is configured as a LITE system and is not authorized to support internal logo generators/keyers. If this is in error, contact Imagine Communications Customer Support to review the IconMaster LITE license and to verify your MGI-390x module is included.

  IconMaster licenses are applied through the ICU's License Management menu:

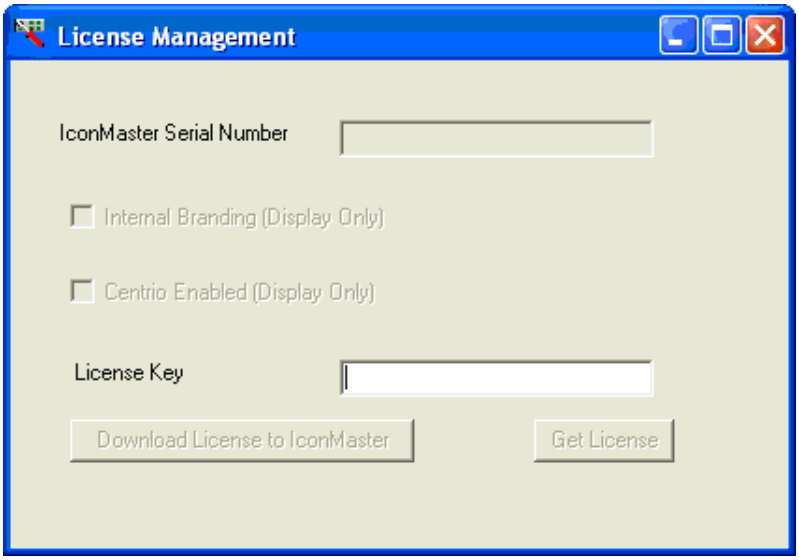


Figure 11-1 Adding a License

- Select Get License to retrieve and display the IconMaster's MKE-3901 module serial number, and provide this information to the Imagine Communications Customer Support team.

If the Internal Keyer buttons display the message "NO MGI CARD FOUND", the MKE module has not detected the MGI module. Remove the IconMaster card set from the NEO frame, and check the module-to-module connections. Ensure the board-to-board screws are securely fastened.

If the Internal Keyer buttons display the message "PLEASE WAIT LOADING LOGOS", the MGI module is still in the process of loading logos from its offline (Compact Flash) storage, to online DDR memory. This process may take some time, depending upon the number of logos, logo size and duration, etc.

The color of the Internal Keyer's tally LCD is also helpful in troubleshooting:

- OFF = No MGI card discovered, or IconMaster LITE
- GREEN = Logo keyer is available, and not on-air
- RED = Logo keyer is on-air

Internal Key Appears Corrupted

Keys can appear corrupted if the HD video standard is changed while an internal key is on air.

When changing between HD operating standards (for example, from 1080I to 720P), you must repower the IconMaster.

Cannot Control the External Keyers

The color of the External Keyer's tally LCD is also helpful in troubleshooting, and indicates whether an external fill/key signal is present to the IconMaster, and if the signal is timed or non-sync with the PGM signal.

- OFF = External fill/key signal is not present.

  IF the keyer is configured for self-key, only the FILL signal is checked.

  IF the keyer is configured for any other type of key, both the FILL and KEY signals must be present.
- GREEN = Keyer has a valid signal, and is not on-air.
- RED = Keyer is on-air
- ORANGE = Keyer has a signal, but the signal is either invalid, or not properly timed with the PGM signal and is considered non-sync. It will key into the program video, but may be vertically offset from the intended on-screen location.

Navigating the Service Menu

You can access the Service menu through the Parameter Adjustment Control cluster. Via the Service Menu, you can see the IconMaster software version in use, view or change the control panel IP address, or view the numeric value of a fader bar position.

To access the service menu:

- On an ICONM-RCP, simultaneously press all four LCD buttons in the center Parameter Control Cluster
- On an ICONM-RCP16 panel, press the right control knob

Figure 11-2 Service Menu

To exit the service menu:

1. Turn the left scroll knob until the left LCD button displays **EXIT**.
2. Press the left LCD button.

Verifying the IconMaster Software Version

1. Access the Service Menu.
2. Turn the left scroll knob until the **PNL S/W** parameter appears. Reading from left to right, you will see a display of the current version of the control panel software. You cannot change this parameter.
3. Turn the left scroll knob until the **PUSH EXIT** parameter appears.
4. When finished, turn the **PUSH EXIT** display button to return to the main Parameter Adjustment Control cluster menu.

Changing IP Address for the Control Panel

1. Access the Service Menu.
2. Turn the left scroll knob until the **PNL IP ADDR** parameter appears. Reading from left to right, you will see a display of the control panel's current IP address.
3. Select the button that contains the IP address component that you want to change, and then turn the right scroll knob to change the number on that button.
4. After you enter the last digit of the IP Address, press the right knob to save the new IP Address.
5. When finished, turn the left scroll knob until the **PUSH EXIT** parameter appears.
6. Press the **PUSH EXIT** display button to return to the main Parameter Adjustment Control cluster menu.

Identifying Fader Bar Relative Positions

1. Access the Service Menu.
2. Turn the left scroll knob until the **Fader Test** parameter appears. The pushbutton on the extreme right will display a numeric value. This numeric value represents a straight linear value that denotes the relative position of the fader bar.
3. If necessary, move the fader bar up or down to the position you want. The numeric values in the right pushbutton will change to correspond with the fader bar's relative position.
4. When finished, turn the left scroll knob until the **PUSH EXIT** parameter appears.
5. Press the **PUSH EXIT** display button to return to the main Parameter Adjustment Control cluster menu.

Getting Help from Customer Service

We are committed to providing round-the-clock, 24-hour service to our customers around the world. Contact our website or the Customer Service team

Table 11-1 Customer Service

Phone: 1-416-642-3611 Toll Free: 1-888-LEITCH6 (534-8246) Fax: 1-416-445-9020 E-mail: BCDService@imaginecommunications.com

12 Specifications

Overview

The following tables list specifications for the IconMaster system.

- ***Inputs*** on page 213
- ***Outputs*** on page 214
- ***Audio*** on page 215
- ***GPI Inputs and Outputs*** on page 217
- ***Power Consumption*** on page 218
- ***MGI-3903*** on page 218
- ***Miscellaneous Items*** on page 218

Specifications and designs are subject to change without notice.

Inputs

Serial Digital Video

Table 12-1 Serial Digital Video Specifications

Item	Specification
Number of inputs	7; A, B, Fill1, Key1, Fill2, Key2, squeeze background
Standard SDTV HDTV	 270 Mb/s per SMPTE 259M 525i/59.94, 625i/50 1.485 Gb/s serial per SMPTE 292M 1080i/50, 1080i/59.94, 720p/50, 720p/59.94
Equalization	Automatic up to 100m (328 ft.) of Belden 1694
Connector type	BNC
Return loss	>15 dB
Impedance	75Ω

Analog Video Reference

Table 12-2 Analog Video Reference Input Specifications

Item	Specification
Connector type	BNC
Number of inputs	1 Genlock
Return loss	-40 dB to 6 MHz
Impedance	75Ω
Reference type	NTSC/PAL, color black, or 525/625 comp sync or Tri-Level per SMPTE 240M 29.97/30/60/25
Level	200 mV to 2 V nominal
Connector type	BNC

Outputs

Digital Video

Table 12-3 Digital Video Outputs Specifications

Item	Specification
Standard SDTV HDTV	270 Mb/s per SMPTE 259M 525i/59.94, 625i/50 1.485 Gb/s serial per SMPTE 292M 1080i/50, 1080i/59.94, 720p/50, 720p/59.94
Connector type	BNC
Number of outputs	4; PGM (2), PST, CLEAN
Return loss	>15 db
Impedance	75Ω

Keyers

Table 12-4 Keyer Output Specifications

Item	Specification
Number of keyers	6 (2 for IconMaster LITE)
Number of key processors	2 external fill+key 4 internal (0 internal for IconMaster LITE)
Key modes	Multiplicative; additive; self (Key 1, 2); matte (Key 1, 2)

System Video Delay

Table 12-5 System Video Delay Specifications

Item	Specification
FX module installed	+1 frame
No FX module installed SDTV HDTV	 3.7 µs + (0 to 1) video line 1.5 µs + (0 to 1) video line

Audio

Embedded

Table 12-6 Embedded Audio Specifications

Item	Specification
Standard SDTV HDTV	 Per SMPTE 272M (embedded as 20-bit audio only) Per SMPTE 299M (embedded as 24-bit audio) 48 KHz per AES3-1992
Channels SD HD	 2 or 4 groups (4 or 8 AES pair, 8 Ch. Discrete) 4 groups (8 AES pair, 8 Ch. Discrete)
Mode	Delete existing and rewrite new audio groups
HANC SDTV HDTV	 Non-audio data will be repacked and rewritten Non-audio data will not be repacked and rewritten

Discrete Audio for Audio Over

Table 12-7 Discrete Audio for Audio Over Specifications

Item	Specification
Input/Output	2 AES
Resolution	24-bit operation (20 bit operation set at the output by configuration)
Sampling rate Input	 48 KHz (33, 44.1KHz)
Sample rate converter SRC disable	 No
Connector	Multi-pin DB62
Format	AES audio levels

Discrete AES Audio Bus A and B

Note: *AES 3-1992 allows the LSB to be used for "Non-Program Audio." If the LSBs are being used this way, the SRC must be turned off to allow for 20-bit operation. If the data is 20 bit, but the LSBs are all "0," no action needs to be taken.*

The following specifications apply when the optional MKA-3901 audio module is used in conjunction with the IconMaster.

Table 12-8 Discrete AES Audio Bus A and B Specifications

Item	Specification
Input	4 AES in each for bus A and B
Output	4 AES for PGM, PST, Clean
Resolution Input Output	 20- or 24-bit operation, set by data configuration bits (with SRC off) 24-bit operation
Sample rate converter SRC disable	 No
Sampling rate Input Output	 48 KHz (33, 44.1 KHz) 48 KHz
Connector	Multi-pin DB62
Format	AES audio levels

Audio Processor

Table 12-9 Audio Processor Specifications

Item	Specification
Number of bus inputs	2 - A, B
Number of AES streams	4
Channel assignment	Not restricted within A path or B path
Modifiers	■ Left or right invert ■ Left and right sum ■ Independent left and right level
Number of audio overs	2
Transitions	Dissolve, cut, fade-fade, cut-fade, fade-cut
Dolby-E handling	■ Restricting transition to "cut" ■ Other actions TBC
Audio delay	■ 160 μs without FX module installed ■ +1 frame with FX module installed

AES User and Configuration Bits

Table 12-10 AES User and Configuration Bits Specifications

Item	Specification
C bits input	Read and analyzed for Format, word size only
C bits output	■ Reinserted based on ICU settings ■ Selectable individually for each AES path ■ Implementation level is "standard"
U bits input	Not read or used
U bits output	■ Reset to 0 ■ Common for all AES paths

Monitoring Audio Level

Table 12-11 Monitoring Audio Level Specifications

Item	Specification
Monitor gain control	0 to 100%

VANC Data

For 525 systems, line 21 may be selected to be part of active picture or blanking. Set this parameter using the IconMaster configuration utility software.

Table 12-12 VANC Data Specifications

Item	Specification
VANC data	Data will be allowed to "pass through" video processor

GPI Inputs and Outputs

It is assumed that these inputs/outputs are externally isolated. They are low voltage TTL style input/outputs.

Input

Table 12-13 GPI Input Specifications

Item	Specification
Quantity	18 (8 for IconMaster LITE)
Type	Non isolated TTL
Polarity	Software specified
Voltage range	-0.3 V to 5.3 V max
Current load	1 mA
Connector	Part of 62-pin "D"-type

Output

Table 12-14 GPI Output Specifications

Item	Specification
Quantity	13 (7 for IconMaster LITE)
Type	Open drain
Polarity	Software specified
Voltage range	-0.3 V to 5.3 V max
Load	40 mA max
Connector	Part of 62-pin "D"-type

Power Consumption

Table 12-15 Power Consumption

Item	Power Consumption
Control panel	250 W maximum; 150 W typical
Frame	■ NEO: <25 W ■ Panacea: 70 W (1RU) or 105 W (2RU)

MGI-3903

Table 12-16 Ethernet Port Specifications

Item	Specification
Standard	10/100Base-T IEEE 802.3u
Connector	8-pin RJ-45

Miscellaneous Items

Table 12-17 Miscellaneous Specifications

Item	Specification
Timecode IN	Per ANSI / SMPTE 12M, XML Female supporting unity speed, forward counting LTC
Timecode OUT	Per ANSI / SMPTE 12M, XLR Male

Table 12-17 Miscellaneous Specifications

Ethernet	10/100BaseT IEEE 802.3u Via RJ-45, 8-pin
Temperature probe	12-36 VDC, 4-20 mA via 44-pin, HD-type female connector
Temperature Performance Operating	 41° – 104°F (5° – 40°C) 32° – 122°F (0° – 50°C)

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